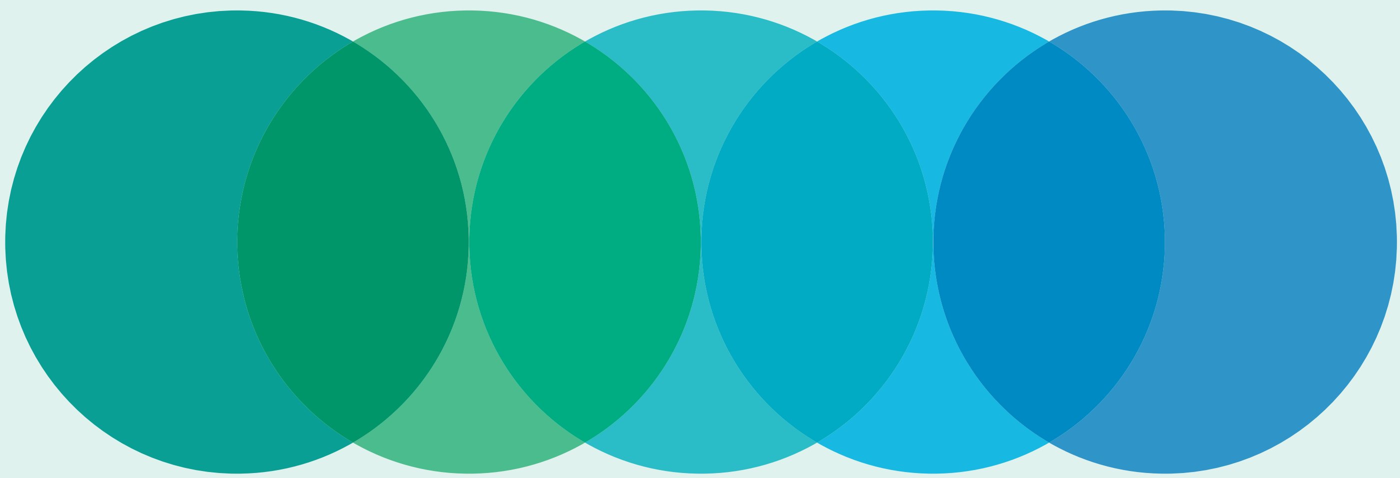
7TH EDITION

FINANCIAL ACCOUNTING

An Integrated Approach



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CENGAGE

Financial Accounting: An integrated approach
7th Edition
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PREFACE

One question I have been frequently asked since writing the first edition of this book is: why write an introductory accounting textbook?

First, I have been involved in teaching introductory financial accounting for over 35 years. I enjoy trying to get across the introductory concepts. Second, I have been surprised at the differences between how introductory accounting is taught in most undergraduate programs and how it is taught in MBA courses in the United States and Australia. Thirty years ago there were good reasons for the differences, as most of our first-year undergraduate students were accounting majors. This is not the case today. Third, when I ask attendees at executive education programs what their accounting background is, many respond that they did first-year accounting 10-plus years ago but found it boring!

With this in mind, I tried to add to an undergraduate book some of the features that MBAs and executives seem to enjoy. We don't want our students returning in 10 years and suggesting our courses are boring! Talking about companies and relating the material to annual reports helps students to get interested.

With all of the above in mind, we set about incorporating the following in the book. First, we have tried to make clear to students the importance of accounting information by frequent reference to current material. Second, as companies are the most common business organisations in Australia today, we start by writing about companies, rather than spending many introductory chapters concentrating on sole traders. Third, to keep this book's material interesting and relevant, we have made frequent references to the content of annual reports. Students learn about real companies and can follow their performance in the newspapers or the share market if they wish. Fourth, we believe that the depth of technical knowledge in this book will challenge both accounting and non-accounting majors.

The first edition of this textbook was adapted from the second edition of the best-selling Canadian introductory financial accounting textbook of the same name written by Michael Gibbins. In the Australian edition, we have added eight chapters as well as reorienting the material towards the Australian context.

The most attractive features of the early editions have been retained: an easy-to-read style with a wealth of extracts from company annual reports, 'How's your understanding?' activity questions throughout each chapter, questions at the end of each chapter relating to real annual reports, as well as a set of cases with questions relating to the Woolworths Limited Annual Report 2017 (appendix at the end of the book).

Students should take advantage of the ancillary material that goes with this book, in particular the CourseMate website, which includes revision quizzes, practice questions, annotated weblinks and much interactive material. Also, the publisher has made available a suite of additional resources for instructors. Students may like to also obtain the accompanying Study Guide, which provides numerous additional questions.

We trust that you will enjoy the book.

Ken Trotman

Guide to the text

As you read this text you will find a number of features in every chapter to enhance your study of financial accounting, helping you to understand how the theory is applied in the real world.

CHAPTER-OPENING FEATURES

Introduction to financial accounting 1

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 describe the basic purpose of financial accounting (1.1, 1.2)
LO2 identify the users of accounting information and the decisions they make that require accounting information (1.3)
LO3 identify the people who are involved in financial accounting (1.4)
LO4 describe how accrual accounting differs from cash accounting (1.5)
LO5 explain the basic contents of the three key financial statements and describe the purpose of each statement (1.6)
LO6 describe the basic principles and assumptions of accounting (1.7, 1.8)
LO7 explain why accounting is important (1.9).

CHAPTER OVERVIEW

Accounting has been described as the 'language of business'. It provides managers within organisations and those outside the organisation (e.g. investors and creditors) with information about the financial performance and financial position of the business. Regardless of what type of career you pursue, accounting information will have important effects on you.

This chapter introduces you to financial accounting and illustrates some useful accounting concepts and techniques. It outlines a way of thinking about financial accounting that will be important to your career, whether you become an accountant or a user of accounting in business or in other walks of life. We believe that every manager is a user of accounting information but some managers use accounting information better than others. You are introduced to the social setting of financial accounting and some of the people involved. Financial accounting is complex and requires sound judgement because it attempts to serve the needs of all these people, not all of whom necessarily see things the same way. You are then introduced to one of the cornerstones of how financial accounting works: accrual accounting, the broad framework within which financial accounting reports are prepared. You are also introduced to the three key financial statements and the basic financial statement assumptions.

1

The learning objectives and chapter overview give you a clear sense of what topics each chapter will cover and what you should be able to do after reading the chapter.

FEATURES WITHIN CHAPTERS

HOW'S YOUR UNDERSTANDING?

How's your understanding activity questions throughout each chapter help you to reinforce your understanding of key concepts as you progress through the text, providing you with the opportunity to reflect on and revise important material.

HOW'S YOUR UNDERSTANDING?

2A Which of the following items would be classified an asset in the balance sheet:
- Cash at bank
- Accounts receivable
- Accounts payable
- Buildings
- Retained profits?

FOR YOUR INTEREST

For your interest sections present intriguing insights into the accounting profession and bring a unique perspective to the concepts covered in each chapter.

FOR YOUR INTEREST

While we have GAAP, it is very important to consider the need to fit the accounting to the circumstances of the particular accounting entity. However, if you always changed everything to suit each organisation, there would be no standards left and no comparability to other organisations. If every course in the university used a unique grading system, you couldn't compare how you did in different courses, or compute a grade-point average. Here, very briefly, are three examples of accounting difficulties that face accountants and managers.

- The ABC, as well as channels Nine, Ten and Seven, have national TV networks in Australia. The ABC is publicly owned, largely financed by the government of Australia, and is not generally supposed to be trying to make a profit, while

A REAL CASE

A real case boxes contain real-world examples of accounting scenarios that help you put the theory into practice.

A REAL CASE

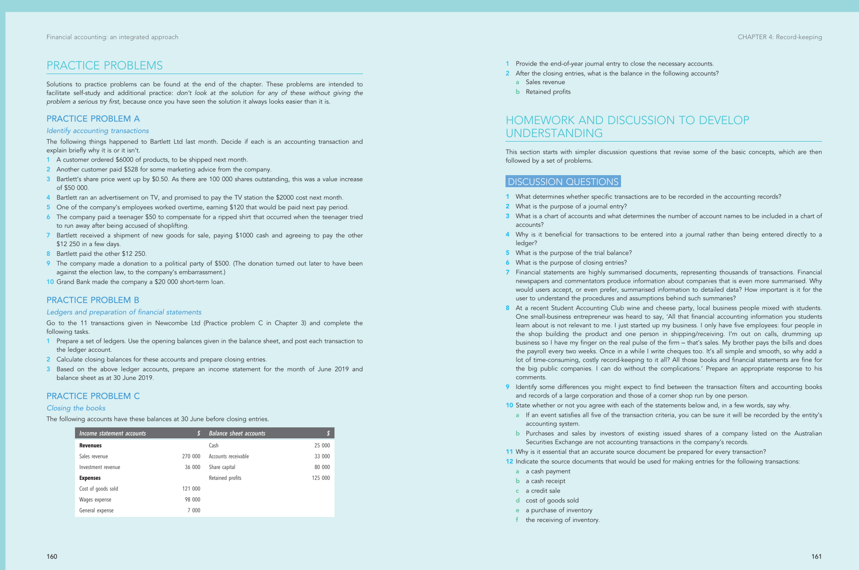
Mike, a junior auditor, was assigned to do a surprise count of the cash on hand at a local clothing shop. The cash counted was short compared with what was expected, based on the auditor's projections of cash from sales and bank deposit records. Mike was accused by the shop's accounting clerk of stealing the cash himself while counting it, and he had to call the police and insist that they search him and so demonstrate that he had not stolen it.

It turned out that the accounting clerk had been stealing cash and covering up the thefts by changing the sales records: a classic case of poor internal control through lack of segregation of duties, because the clerk had access to

END-OF-CHAPTER FEATURES

At the end of each chapter you'll find several tools to help you to review, practise and extend your knowledge of the key learning outcomes.

- Practice problems give you the opportunity to test your knowledge and consolidate your learning.
- The homework and discussion to develop understanding section provides you with discussion questions, problems, and cases to help you with your revision.
- Solutions to the practice problems and How's your understanding questions facilitate self-study and additional practice.



Financial accounting: an integrated approach

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Identify accounting transactions

The following things happened to Bartlett Ltd last month. Decide if each is an accounting transaction and explain briefly why it is or it isn't.

1 A customer ordered $6000 of products, to be shipped next month.
2 Another customer paid $528 for some marketing advice from the company.
3 Bartlett's share price went up by $0.50. As there are 100 000 shares outstanding, this was a value increase of $50 000.
4 Bartlett ran an advertisement on TV, and promised to pay the TV station the $2000 cost next month.
5 One of the company's employees worked overtime, earning $120 that would be paid next pay period.
6 The company paid a teenager $50 to compensate for a ripped shirt that occurred when the teenager tried to run away after being accused of shoplifting.
7 Bartlett received a shipment of new goods for sale, paying $1000 cash and agreeing to pay the other $12 250 in a few days.
8 Bartlett paid the other $12 250.
9 The company made a donation to a political party of $500. (The donation turned out later to have been against the election law, to the company's embarrassment.)
10 Grand Bank made the company a $20 000 short-term loan.

PRACTICE PROBLEM B

Ledgers and preparation of financial statements

Go to the 11 transactions given in Newcombe Ltd (Practice problem C in Chapter 3) and complete the following tasks.

1 Prepare a set of ledgers. Use the opening balances given in the balance sheet, and post each transaction to the ledger account.
2 Calculate closing balances for these accounts and prepare closing entries.
3 Based on the above ledger accounts, prepare an income statement for the month of June 2019 and balance sheet as at 30 June 2019.

PRACTICE PROBLEM C

Closing the books

The following accounts have these balances at 30 June before closing entries.

Income statement accounts	*$*	*Balance sheet accounts*	*$*
Revenues		Cash	25 000
Sales revenue	270 000	Accounts receivable	33 000
Investment revenue	36 000	Share capital	80 000
Expenses		Retained profits	125 000
Cost of goods sold	121 000		
Wages expense	98 000		
General expense	7 000		

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CHAPTER 4: Record-keeping

1 Provide the end-of-year journal entry to close the necessary accounts.
2 After the closing entries, what is the balance in the following accounts?
   a Sales revenue
   b Retained profits

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 What determines whether specific transactions are to be recorded in the accounting records?
2 What is the purpose of a journal entry?
3 What is a chart of accounts and what determines the number of account names to be included in a chart of accounts?
4 Why is it beneficial for transactions to be entered into a journal rather than being entered directly to a ledger?
5 What is the purpose of the trial balance?
6 What is the purpose of closing entries?
7 Financial statements are highly summarised documents, representing thousands of transactions. Financial newspapers and commentators produce information about companies that is even more summarised. Why would users accept, or even prefer, summarised information to detailed data? How important is it for the user to understand the procedures and assumptions behind such summaries?
8 At a recent Student Accounting Club wine and cheese party, local business people mixed with students. One small-business entrepreneur was heard to say, 'All that financial accounting information you students learn about is not relevant to me. I just started up my business. I only have five employees: four people in the shop building the product and one person in shipping/receiving. I'm out on calls, drumming up business so I have my finger on the real pulse of the firm – that's sales. My brother pays the bills and does the payroll every two weeks. Once in a while I write cheques too. It's all simple and smooth, so why add a lot of time-consuming, costly record-keeping to it all? All those books and financial statements are fine for the big public companies. I can do without the complications.' Prepare an appropriate response to his comments.
9 Identify some differences you might expect to find between the transaction filters and accounting books and records of a large corporation and those of a corner shop run by one person.
10 State whether or not you agree with each of the statements below and, in a few words, say why.
   a If an event satisfies all five of the transaction criteria, you can be sure it will be recorded by the entity's accounting system.
   b Purchases and sales by investors of existing issued shares of a company listed on the Australian Securities Exchange are not accounting transactions in the company's records.
11 Why is it essential that an accurate source document be prepared for every transaction?
12 Indicate the source documents that would be used for making entries for the following transactions:
   a a cash payment
   b a cash receipt
   c a credit sale
   d cost of goods sold
   e a purchase of inventory
   f the receiving of inventory.

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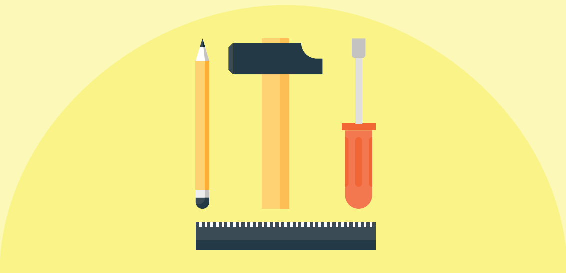
Guide to the online resources

FOR THE INSTRUCTOR

Cengage is pleased to provide you with a selection of resources that will help you prepare your lectures and assessments. These teaching tools are accessible via **cengage.com.au/instructors** for Australia or **cengage.co.nz/instructors** for New Zealand.

SOLUTIONS MANUAL

The solutions manual provides solutions to discussion questions, end-of-chapter problems and case questions.

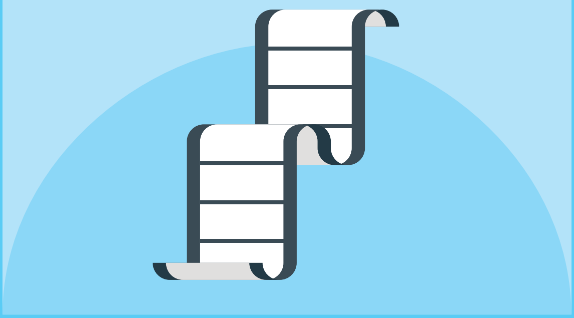


WORD-BASED TEST BANK

This bank of questions has been developed in conjunction with the text for creating quizzes, tests and exams for your students. Deliver these through your LMS and in your classroom.

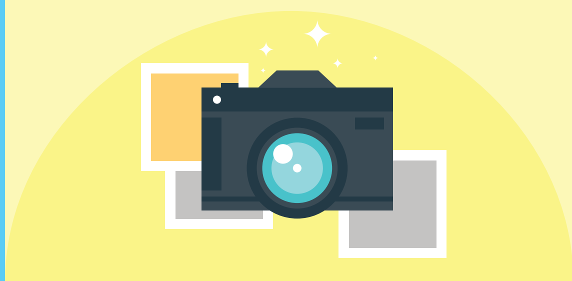
POWERPOINT PRESENTATIONS

Use the chapter-by-chapter PowerPoint presentations to enhance your lecture presentations and handouts by reinforcing the key principles of your subject.



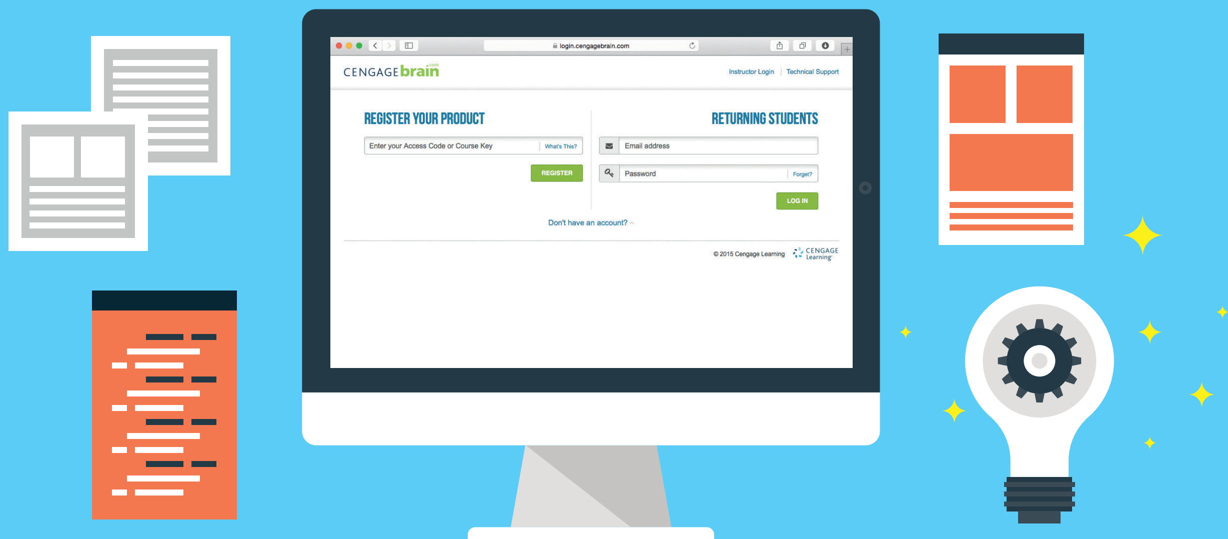
ARTWORK FROM THE TEXT

Add the digital files of graphs, pictures and flowcharts into your course management system, use them within student handouts or copy them into lecture presentations.



FOR THE STUDENT

New copies of this text come with an access code that gives you a 12-month subscription to the CourseMate Express website. Visit http://login.cengagebrain.com and login using the code card.



CourseMateExpress

The CourseMate Express website includes:

- revision quizzes
- glossary and flashcards
- and much more!

CENGAGE brain.com

ALSO AVAILABLE

Available separately is an introductory Management Accounting eBook that helps you build a fully integrated understanding of financial accounting and management accounting. You can buy the Management Accounting eBook direct from CengageBrain.

ABOUT THE AUTHORS

Ken Trotman is Scientia Professor in the School of Accounting at UNSW Sydney. He is a Fellow of both CPA Australia and Chartered Accountants Australia and New Zealand. Ken's major research interests include examining the processing of information by users of accounting reports and auditors, and the factors that affect the quality of their decisions. He has received a number of major awards from the American Accounting Association including Outstanding Educator Award by the Audit Section, the Notable Contribution to the Auditing Literature Award, and Notable (Lifetime) Contribution Award in Behavioral Accounting Literature. He is a former president of the AFAANZ, a former Coopers & Lybrand visiting research professor and Director of Research for the audit section of the American Accounting Association. He has over 35 years of university teaching experience. In addition to teaching at UNSW, he has taught at the University of Illinois at Urbana–Champaign, Cornell University and the University of Michigan. He has extensive consulting experience and has conducted many executive training programs in both the private and public sectors. He has published widely in Australian and international research journals and was inducted into the Australian Accounting Hall of Fame in 2011.

Elizabeth Carson is a Professor in financial accounting and auditing at UNSW Sydney. Elizabeth's research interests include economics of global and national audit markets, industry specialisation by auditors and audit reporting. Her PhD investigating global audit firm networks and global industry specialisation by audit firms was awarded the American Accounting Association Auditing Section Outstanding Dissertation Award in 2008. Her work has appeared in leading academic journals including *The Accounting Review, Auditing: A Journal of Practice* and *Theory and Accounting and Finance*. Elizabeth teaches at postgraduate level in financial accounting and auditing, as well as supervising research students in the Honours, MPhil and PhD programs. She received the Pearson Education Accounting Lecturer of the Year award for her development of the 'Accounting: A User Perspective' subject in the Masters of Commerce program. Prior to joining academia, she worked with Pricewaterhouse Coopers (PwC) and is qualified as a chartered accountant. She presently holds the role of Associate Dean Research at UNSW.

Kate Morgan is a sessional lecturer in the School of Accounting, UNSW Sydney, teaching the core financial accounting subject in the Masters of Professional Accounting Program. She has extensive experience in the teaching of introductory financial accounting including design and question setting. She has designed accounting materials for undergraduate and masters programs in both face-to-face and online settings including MBA face-to-face and online programs. Kate developed material for the first edition of this book, has regularly updated material through many editions and has now joined the team as an author. Prior to returning to the university she held senior management positions specialising in project and program management, accounting and information systems design.

ACKNOWLEDGEMENTS

The completion of this book was only achieved with the help of many individuals. My greatest thanks go to my former colleague, the late Gordon Howitt. Over 40 years ago Gordon inspired my interest in accounting. He taught me first-year accounting and subsequently as a staff member provided me with guidance and support. Without his help I could not have written this book. During the first edition he encouraged me, regularly checked on progress, continually read drafts, provided many questions, authored the solutions manual and generally offered friendship and support. This support continued with the reviewing of the second edition. For 50 years he made an outstanding contribution to accounting education at UNSW. I certainly have never met a more dedicated accounting teacher. It has been a privilege to work with him and we all miss his inspiration.

My original co-author Mike Gibbins was kind enough to invite me to adapt his original Canadian textbook. Mike has an outstanding reputation as a researcher and I liked his version of the book so much that I decided to take on the task of co-author. Mike has now retired after a very distinguished career as one of the world's leading accounting researchers and a truly outstanding teacher. Professor Elizabeth Carson took over as co-author, has provided me with many helpful suggestions on previous editions of the book and has helped to reshape many parts of the latest editions of the book. Our latest co-author, Kate Morgan, has contributed to the book across numerous editions and now takes on a more extensive role.

My life has been made much easier with the help of some very capable research assistants. Staff at UNSW and some other universities have been generous in providing me with material. Michael Pennisi provided material on GST and material on subsidiary ledgers, now in Chapter 8. Athol Carrington and Gordon Howitt provided me with some material in Chapter 5, as well as numerous questions, and Malcolm Miller with some material in Chapter 7. Rosina Mladenovic provided some material for Chapters 9 and 10 as well as numerous comments on the book. Gerry Galley wrote substantial sections of Chapter 11. Noel Harding provided material for Chapter 7. Chapter 17 was largely written by Andrew Trotman with excellent inputs from Tanya Fiedler, Sarah Adams and Hien Hoang as well as advice from Roger Simnett and Patricia Strong. Questions were also provided by Kevin Clarke, Victoria Clout, Claudia Gormily, Dean Hanlon, Noel Harding, Cameron Hooper, Andrew Jackson, Helen Kang, Jeffrey Knapp, Chris Poullaos, Patricia Strong and Per Tronnes. Other useful comments were provided by present and ex-UNSW staff including Kar Ming Chong, Robert Czernkowski, Neil Fargher, Roger Gibson, Wendy Green, Noel Harding, Andrew Jackson, Amna Khalifa, Janice Loftus, Diane Mayorga, Malcolm Miller, Richard Petty, Baljit Sidhu and Roger Simnett. Over various editions, advice from Stephen Bah (University of Newcastle), Peter Carey (Monash University), Peter Collett (University of Tasmania), Russell Craig, Linda English (University of Sydney), Vic Fatseas (Charles Sturt University), Jack Flanagan, Dean Hanlon (Monash University), Jan Hollingdale (Bond University) and Greg Whittred was appreciated. Cengage also arranged for use of some material in Chapter 6 from the US book by I. Solomon, L. Wither, P. Vargo and L. Plunkett. A special thanks to Judith Quinn for extensive word processing of the materials.

Ken Trotman

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Introduction to financial accounting

1

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 describe the basic purpose of financial accounting (1.1, 1.2)

LO2 identify the users of accounting information and the decisions they make that require accounting information (1.3)

LO3 identify the people who are involved in financial accounting (1.4)

LO4 describe how accrual accounting differs from cash accounting (1.5)

LO5 explain the basic contents of the three key financial statements and describe the purpose of each statement (1.6)

LO6 describe the basic principles and assumptions of accounting (1.7, 1.8)

LO7 explain why accounting is important (1.9).

CHAPTER OVERVIEW

Accounting has been described as the 'language of business'. It provides managers within organisations and those outside the organisation (e.g. investors and creditors) with information about the financial performance and financial position of the business. Regardless of what type of career you pursue, accounting information will have important effects on you.

This chapter introduces you to financial accounting and illustrates some useful accounting concepts and techniques. It outlines a way of thinking about financial accounting that will be important to your career, whether you become an accountant or a user of accounting in business or in other walks of life. We believe that every manager is a user of accounting information but some managers use accounting information better than others. You are introduced to the social setting of financial accounting and some of the people involved. Financial accounting is complex and requires sound judgement because it attempts to serve the needs of all these people, not all of whom necessarily see things the same way. You are then introduced to one of the cornerstones of how financial accounting works: accrual accounting, the broad framework within which financial accounting reports are prepared. You are also introduced to the three key financial statements and the basic financial statement assumptions.

1.1 Use and preparation of accounting

LO1 Financial accounting has value because the information it produces is used in a variety of ways. Users include managers, investors, bankers, financial analysts and many others. Such people study accounting to learn how to use information effectively and to do their jobs better. For accountants, this information is essential to the services they provide.

Accounting is a complex human activity. Accounting information doesn't just happen: it is produced by a large set of people, activities and computers. To be effective users of the information, people need to know something about how and why the information is prepared. Accountants' expertise is all about the how and the why.

The demand for useful information shapes how financial accounting information is prepared; for example, when producing annual or monthly performance reports. How it is prepared shapes its use; for example, in analysis of financial statements and managerial decisions using accounting information.

FOR YOUR INTEREST

Learning terminology is important. To help you with that, this book has a glossary of terms at the back on page 697. If you're not sure what a term means, look it up right away.

Accounting is a challenging discipline that involves many capabilities: assigning numbers to represent financial phenomena; providing explanations of those numbers; analysing and verifying the information prepared by others; understanding the needs of those who use accounting's reports to make decisions; engaging in oral, written and electronic communication with the many people involved in an organisation's financial activities; and maintaining judgement that is sound, objective and ethical.

Much of the challenge of accounting is in figuring out which numbers to use and deciding what the numbers tell us. Adding and subtracting the numbers is often the easy part. This makes accounting both easier and harder to learn than you might have thought. Accounting is rooted in the financial setting, and has its own vocabulary, so don't expect it all to make perfect sense at the beginning. It will take a while for you to acquire the knowledge that creates an understanding of business and accounting as they really are in our world. This understanding will be based on your knowledge of both concepts and techniques, and of the viewpoints of both accountants and the users of accounting.

The going will not all be easy, but if you give it your best effort, you may be surprised at the high level of sophistication you will reach. Here is one important suggestion. The only way to learn accounting is to do problems. It is vital that you do more than just read the examples. After reading the chapter, come back and do the examples to check your understanding. Throughout the book there are many questions called 'How's your understanding?'. Try to do the question and then look up the answer at the end of the chapter. These questions are numbered 1A, 1B, 1C, etc. where 1 indicates the chapter and the letter of the particular question.

1.2 Financial accounting

LO1 Accounting is a process of identifying, measuring and communicating economic information to allow informed decisions by the users of that information. Accounting systems are often described as either financial accounting systems (where periodic financial statements are provided to external decision-makers, such as investors, creditors and customers) or management accounting systems (including information for planning and performance reports to managers throughout the organisation; that is, internal decision-makers).

Financial accounting measures an organisation's performance over time and its position (status) at a point in time, and does so in Australian dollars, US dollars, yen, euros or whatever currency is judged relevant to the organisation. This measurement of financial performance and financial position is done for all sorts of

organisations: large and small businesses, governments from local to national levels, universities, charities, churches, clubs, international associations and many others. The financial statements, which are financial accounting's reports, summarise the measurements of financial performance and financial position in standard ways thought to be useful in evaluating whether the organisation has done well and is in good shape. These financial statements include notes, which contain many words (sometimes dozens of pages) of explanation and interpretation, in addition to the numbers. The statements report on the economic and financial matters and are largely for the use of people outside the organisation, such as investors, lenders, club members, regulatory agencies and taxation authorities.

In summary:

- *Financial performance* is the generation of new resources from day-to-day operations over a period of time.
- *Financial position* is the organisation's set of financial resources and obligations at a point in time.
- *Financial statements* are the reports describing financial performance and financial position (e.g. the balance sheet and the income statement).
- *Notes* are part of the statements, adding explanations to the numbers.

As we will see throughout this book, financial performance and position are highly related. Good performance is likely to lead to a healthy financial position; if a company has been making profits, it will probably build up resources. On the other hand, a healthy financial position facilitates performance; if you have lots of resources compared to obligations, the company can undertake activities that lead to good performance.

Another branch of accounting, management accounting, is oriented towards helping managers and others inside the organisation, in contrast to financial accounting's more external focus. While management accounting is not examined in this book, students interested in how financial accounting measures managerial performance will find frequent references to the relationship between managers and financial accounting. In the end, all forms of accounting exist to help people such as managers, investors, bankers, legislators and the public make financial decisions.

HOW'S YOUR UNDERSTANDING?

1A What are the two main things that financial accounting measures?
[Answers to all 'How's your understanding?' questions are at the end of each chapter. Make sure you try to answer the question prior to looking up the answer.]

1.3 Who uses financial accounting information?

This book will show you the many ways in which financial accounting has been shaped by the development of business and society. Financial accounting helps: LO2

- stock market investors decide whether to buy, sell or hold shares of companies
- banks and other lenders decide whether or not to lend
- managers run organisations on behalf of owners, members or citizens (in addition to the help provided by management accounting and other sources of information)
- management by providing basic financial records for the purposes of day-to-day management, control, insurance and fraud prevention
- governments in monitoring the actions of organisations and in assessing taxes, such as income tax and the goods and services tax (GST).

Whole books can be, and have been, written about each of these functions. Though this book emphasises externally oriented financial accounting for business firms, don't forget that there are many other organisations that use, and are affected by, accounting. When words like 'organisation' or 'company' are used, the implications often go well beyond business firms.

The centre of our interest in this book – financial accounting for the organisation – operates within and serves a complex social setting. It seeks to monitor and report on financial events initiated by or happening to the organisation. Accounting is not a passive force within the social setting: it tells us what is going on, but in so doing it affects our decisions and actions and, therefore, also affects what is going on.

The social setting is composed of many people, including groups, companies, institutions and other parties interested in, or having an influence on, the company's financial accounting. As we will see many times in this book, these parties do not share the same interest in the company's accounting, and may even be in competition or conflict with each other. For example, management are likely to prefer higher salaries but this may or may not be in the best interest of shareholders. Most will be in the same country as the company and its management but, increasingly, companies and other organisations are operating internationally. The other groups interested in, and affecting, the company's financial accounting may be located anywhere on the planet.

Let's consider some possible users of the financial statements of a listed company:

- A company's board of directors manages the company on behalf of its shareholders. One function of the board, which involves the financial statements, is hiring the company's top operating management – especially the chief executive officer (CEO). Suppose you are a member of the board and are preparing for a discussion at the next board meeting. The board evaluates the CEO's performance continuously, which is its responsibility. The financial statements have been provided to the board prior to the meeting, and will be a major contribution to this evaluation.
- A company's shares are listed (i.e. can be bought and sold) on the Australian Securities Exchange (ASX). Suppose you are a financial analyst for an investment banker and are preparing a report projecting future earnings and making recommendations about whether the company's shares are worth buying, keeping if already held, or instead should be sold. You have the financial statements and will use them to support your report.
- A company has several hundred million dollars in bank borrowings, and lines of credit (pre-authorised borrowing capability) for millions of dollars more. Suppose you are a commercial lending officer for a bank, conducting a regular review of the company's borrowing status. You must consider the quality of the company's financial performance and assets (many of which have been assigned as security on bank loans, and therefore could be seized if the company doesn't pay its loans back on schedule). Financial performance is important because net profit generates cash to pay loans, and a good past record suggests that the company is likely to be able to earn profit in the future. You have requested the financial statements to use in your review.
- A company depends on a large number of suppliers to obtain goods and services. Suppose you are the sales manager of a stationery supplier and are considering signing a long-term contract to supply the company. You want to sign the contract because your company needs the business, but you have to be satisfied that your shipments will be paid for. More positively, you hope that if you do a good job, you will have an opportunity to grow with the company. Most of the information you need has been received already, but you have obtained the financial statements and are reviewing them as you make your final decisions about the contract.
- Management and unions often negotiate about an increase in pay rates for workers. One key input is the ability of the company to pay these increases. A company's financial statements are an important input to this decision.

In summary, these scenarios indicate the following reasons for using the company's financial statements:

- evaluation of the CEO's performance by a member of the board of directors
- preparation of 'buy', 'sell' or 'hold' recommendations by a financial analyst

- review of the company's borrowing status by a bank lending officer
- development of a supply contract with the company by a stationery supplier's sales manager
- determining pay rises by management and unions.

These scenarios have been chosen to add to your insight into the use of financial accounting information. They are not complete. In all cases, the financial statements would be only part of the information used in the decision-making process. Also, there are many other uses for financial statements, some of which might make different demands on the quality of the information from those discussed here.

FOR YOUR INTEREST

Above we noted that financial statements would be only part of the information used by various groups such as investors and management in decision-making. Another important type of information is sustainability reporting. These reports include information on economic, environmental, social and safety performance. For example, they could include information on carbon emissions, energy usage, employee safety, community involvement, etc. We introduce this material in Chapter 17, as many companies now include this information in their annual reports or in separate sustainability reports.

1.4 The people involved in financial accounting

LO3

The main participants in the art of financial accounting are:

- the information users (the decision-makers)
- the information preparers, who put together the information to facilitate the users' decision-making
- the auditors, who assist the users by enhancing the credibility of the information, providing a professional opinion about the fairness and appropriateness of the information.

Users (decision-makers)

In financial accounting, a user or decision-maker is someone who makes decisions on the basis of the financial statements, on his or her own behalf, or on behalf of a company, bank or other organisation. Ultimately, the nature and contents of financial statements are functions of the demand for decision information from users. If user demand is the fundamental reason for financial statements, understanding the demand is important.

A user's main demand is for the *credible periodic reporting* of an organisation's financial position and performance:

- *Credible* means that the information in the reports (the financial statements) appears to be sufficiently trustworthy and competently prepared for it to be used to make decisions. There is a cost–benefit issue here: huge amounts of money could be spent trying to make the reports absolutely perfect, but since that money would have to come out of the organisation's funds, spending it would make its performance and position poorer. Users, such as owners and managers, may not want that to happen, so credibility is a relative condition, not an absolute one. Accounting information has to be worth its cost.
- *Periodic* means that users can expect reports on some regular basis (such as yearly or quarterly). The longer the wait, the more solid is the information. But waiting a long time for information is not desirable: users are willing to accept some imprecision in the information in return for periodic reports with timely, decision-relevant information.

The main groups of users are as follows:

- *Owners* are individual business owners, such as proprietors, partners and other entrepreneurs; individual investors (shareholders) in shares on stock markets who can vote on company affairs; companies that

invest in other companies; superannuation funds and other institutions that invest in companies; and people with quasi-ownership interests, such as members of clubs or voters in local councils. In respect of companies, shareholders own portions of the corporation – shares that can be bought and sold – but the corporation is a legal entity existing separately from its shareholder owners. Investors purchase shares in a company with the hope of gaining in two ways: receiving a portion of the company's profit in the form of dividends, and being able to sell their shares in the future at a price higher than they paid.

- *Potential owners* are people of the same sort as the owners listed above, who do not at present have funds invested in the organisation but may be considering making such an investment. Because potential owners often buy shares from present owners – for example, by trading shares on the stock market – rather than investing directly, there is often a significant difference in outlook between present owners, who may wish to sell their shares for as much as possible, and potential owners, who would like to pay as little as possible.
- *Creditors and potential creditors* are suppliers, banks, bondholders, and others who have lent money to the organisation, who are owed funds in return for supplying something of value, or who are considering taking on such a role. Creditors do not have the legal control of the organisation that owners have, but they often have a large say in organisation decisions, especially if the organisation gets into financial difficulty. In cases of extreme difficulty, creditors may have the right to take over control of the organisation from the owners. Sometimes the difference between creditors and owners is hard to discern because it may depend on subtle legalities about who has what rights, and some people may play both roles for a given organisation. For example, an owner invests money in a business, but in addition may lend the business further money, becoming a creditor as well as an owner. Creditors need to decide whether to supply goods or services to the firm on credit.
- *Managers* are those who run the organisation on behalf of the owners. They have a great interest in the way accounting reports on their activities and results. They use the information for planning, controlling and organising the activities of the entity. Often managers' salaries and bonuses, and the likelihood of staying in their jobs, are directly affected by the contents of the financial statements. In small businesses in particular, the owner may also be the main manager.
- *Employees and their unions or other associations* are interested in the organisation's ability to pay wages, maintain employment levels and keep such promises as paying superannuation contributions. Financial information can be used to assess job security.
- *Regulators and other government bodies and agencies* are groups that may use the financial statements as a basis to evaluate whether the organisation is following various rules and agreements.
- *Financial and market analysts* are people who study companies' performances and prepare reports for others by analysing those companies. Analysts often make recommendations about whether to invest, sell shares or do neither.
- *Competitors* may use the financial statements to try to understand the organisation's operations for the purpose of better understanding what their competitors will do in the future and, therefore, what decisions they should make. Sometimes, for example, managers are reluctant to disclose information to shareholders, because competitors can then also obtain it and act to reduce the organisation's prospects.
- *Accounting researchers* are people – mostly university academics, but also some based in accounting firms and other organisations – who study accounting with the objective of understanding it and contributing to its improvement.
- *Customers* need to consider if the entity is financially sound. This is particularly important when customers are required to pay amounts in advance, such as on a building contract. It is also important if customers rely on the warranties provided by the entity.
- *Miscellaneous third parties* are various other people who may get access to an organisation's financial statements and use them in various ways. Once statements have been issued, many people may make use of them. For example, politicians may make judgements about industry efficiency or taxation levels,

journalists may write stories about employment practices, and judges may evaluate the organisation's ability to pay if it loses a lawsuit.

Think about all these users and decisions! It is a great challenge to develop one set of periodic financial statements for an organisation so that it can be useful for all. Perhaps you will not be surprised to know that there is much controversy about whether financial statements do this well, and whether financial accounting methods serve some users or decisions better than others.

How likely is it that you, the reader, will use accounting information in the future?

If you plan to be an accountant, the value of studying financial accounting is clear. It may not be so clear, however, if you have other plans, such as a career in management, marketing, finance, engineering, law, human resources or production. To provide some perspective to those of you not planning an accounting career, and to help you understand the managers you will work with if you do become an accountant or auditor, comments will be made frequently about managers and financial accounting.

Financial accounting is directly relevant to managers because it reports on the managers' performance as decision-makers, caretakers of the organisation, representatives of the owners, legal officers of the organisation, and so on. Any manager cannot help but be interested in how her or his performance is being measured and in how that performance is analysed, projected and otherwise evaluated. Managers' bonuses, promotions, dismissals, transfers and other rewards and penalties are often directly based on the numbers and commentaries prepared by accountants. Every manager should have an intimate understanding of how accounting is measuring his or her performance and should be able to conduct a 'reasonableness check' of the information being provided. It is critical for managers to understand the impact of every decision they are making on accounting numbers as these numbers will measure their performance.

Here are a few examples of how non-accounting managers may use accounting information:

- Marketing managers need to understand the financial statements of potential customers to determine which customers to focus on and which ones to extend credit to.
- Purchasing managers need to understand suppliers' financial statements to make sure they have the capacity to supply in the long term.
- Human resources managers use accounting information in salary negotiations.
- Information systems designers need to include the accounting information system in their design.

If you are extremely talented and have decided to make your fortune as a sports star or musician, you still need to know about accounting. We suggest that understanding the financial statements of the Sydney Cricket Ground or the Opera House would be of benefit in negotiating with those organisations.

FOR YOUR INTEREST

Over the last few years there have been major negotiations between football (various codes) and cricket players and administrators over how total revenues of the sports should be shared between players and other stakeholders. That is, the players, their representatives and the administrators are using the information in the financial statements of the sporting bodies as part of the negotiations over salaries and other benefits.

Preparers (decision facilitators)

Two main groups are responsible for the information in the financial statements:

- *Managers* are responsible for running an organisation, including issuing accounting and other information, and controlling its financial affairs. The fact that managers are also users, and are vitally interested in the results, has created a fundamental conflict of interest for them and has led to the development of the auditing function (see below). Managers are often referred to, as a group, as management.
- *Accountants* have the job of shaping the financial statements by applying the principles of accounting to the organisation's records, under the direction of management. Many accountants are members of

professional societies, such as CPA Australia, Chartered Accountants in Australia and New Zealand, and the Hong Kong Society of Accountants. Accountants and their professional bodies also often have auditing experience and interests, and sometimes auditing roles, but the task of preparing the financial statements is quite different in principle from the task of verifying those statements once they are prepared.

Auditors (credibility enhancers)

Auditors report on the credibility of the organisation's financial statements, on behalf of owners and others. Auditors have the job of assisting the users by verifying that the financial statements have been prepared fairly, competently and in a manner consistent with accepted accounting principles. The auditing role is a very old one, arising because users demanded some assurance that managers' reports on their performance were not self-serving or biased. This book refers frequently to external auditors, who report on the financial statements on behalf of external users, but there are also internal auditors, who work within the organisation to support the credibility of information being used by management. External auditors provide an opinion on the truth and fairness of the financial statements. While external auditors may be asked for advice in preparing the statements, especially for small companies, they must avoid responsibility for the statements because their role is to scrutinise the preparation process. They cannot credibly audit statements they have prepared! (Professional accountants often do prepare financial statements, but in so doing they are not acting as external auditors, and they make this clear in covering letters and footnotes attached to the statements.)

The external auditors are formally appointed by the owners; for example, at the annual shareholders' meeting. But an organisation's external auditor is not permitted to be an owner or manager of the organisation. For example, they cannot own shares in the company and they cannot act as a director or manager of the company, even for a small part of the year. This is to ensure that the auditor is financially and ethically independent and can therefore be objective about the organisation's financial affairs. Independence and objectivity are fundamental ideas that you will encounter frequently in this book.

External auditors may work alone or in partnership with other auditors in accounting firms. Some of these firms are very large, having thousands of partners and tens of thousands of employees, and offices in many cities and countries. Accounting firms offer their clients not only external auditing but also advice on income tax, accounting, computer systems and many other financial and business topics. However, if they conduct the audit there are rules in place about what other services they can provide, as auditors cannot be involved in auditing their own work, or creating any conflict-of-interest problems. Managing this requires considerable professional skill and attention to the ethics and rules of professional conduct. Whether this is being done successfully is a matter of much controversy at present. In Australia, as well as in many overseas countries, there has been additional regulation aimed at improving the independence of auditors. The large accounting firms annually spend many millions of dollars on their independence and quality-control systems.

People and ethics

Ethics, mentioned above, will be raised throughout this book. Ethical issues can arise in just about any area of accounting. Here are some examples, all of them real:

- An organisation has been sued by a recently fired employee who claims that the dismissal was based on the employee's age, and therefore broke employment laws. The organisation's general manager denies any impropriety. The organisation's chief accountant, who personally feels that the former employee's claim is justified, has suggested to the boss that the lawsuit should be mentioned in a note to the financial statements, so that users of the statements will know there is a potential for loss if the former employee wins. The general manager feels that the chief accountant should ignore the lawsuit in preparing the financial statements, to avoid embarrassment and the appearance of admitting guilt. The general manager fears that such an apparent admission could be used against the organisation in court and so could cause the organisation to lose the lawsuit. What should the chief accountant do?
- While doing an audit, the external auditor learns that the organisation may have been cheating one of its customers. The customer, who is unaware of this and quite happy with things, is another client of the auditor. The auditor, who is bound by rules of conduct designed to protect the confidentiality of

information gained during the audit, knows that saying anything to anyone could result in major lawsuits. Should the auditor just keep quiet about what was found?

- A third organisation's general manager is paid a bonus each year, calculated as a percentage of profit. The general manager is considering a proposed change of accounting methods that will reduce expenses this year and therefore raise accrual profit and increase the general manager's bonus. Should the general manager refuse to implement the accounting change, request that the bonus calculation ignore the change, or just go ahead and enjoy the higher bonus?

These illustrative problems do not have easy answers, so none are offered here. They are dilemmas for the chief accountant, the auditor and the general manager. This book will address ethical issues from time to time, helping you to sharpen your ethical sense along with your accounting knowledge – the two are inseparable.

1.5 Accrual accounting

LO4

Financial accounting's task of producing financial statements is a complex one. For even a small business, thousands of events (transactions) have to be recorded and their financial effects evaluated. For large corporations such as BHP Billiton, Lend Lease, Rio Tinto, Woolworths, AMP, Qantas and Westpac, or organisations such as the University of New South Wales, Brisbane City Council or the Red Cross, the number of annual transactions runs into the millions or billions. Frequently, when the time comes to prepare the financial statements, some transactions have not been completed, are in dispute or have an otherwise unclear status.

To cope with these complexities, financial accounting for most businesses and organisations uses the accrual accounting approach. Under an accrual accounting system, the impact of transactions on the financial statements is recognised in the time periods during which revenues and expenses occur, rather than when the cash is received or paid. Formal definitions of revenues and expenses can be quite complicated, and are left to Chapter 2. At this stage, we will provide examples of the main types of revenues and expenses.

The main form of revenue is usually the sale of goods or services; for example, the sale of coffee machines for $45 000 or carrying out the installation of a new computer system for $300 000. Other revenues include interest on investments held, dividends received on shares and rent from premises owned by the company.

Consider the main revenues and expenses for a coffee cart you see on campus or in the city. The main revenue will come from coffee sales. If all sales are cash sales it would be the cash received for the coffees sold. But note many customers use their credit card (where it may be days/weeks before the cash is received) or that some customers may have an account where all coffees sold to them are recorded and then they pay the whole amount the following month on receipt of an invoice. Note that under accrual accounting it is the delivery of the service (i.e. handing over the cup of coffee) that results in revenue being recognised.

Expenses include the costs of services and resources consumed in the process of generating revenues. Examples of costs incurred are wages, electricity, travel and rent. An example of resources consumed is depreciation. Organisations depreciate the cost of an asset (such as a motor vehicle or a printing machine) over the useful life of the asset; that is, each year a percentage of the cost of the asset becomes an expense. These assets are helping in generating revenue; therefore, a share of the cost should be treated as an expense in each accounting period during which the asset helps generate revenue.

Why do we depreciate the cost of an asset over its useful life rather than treat the cost of the asset as an expense in the first year? The reason is that the asset is used over many years and helps generate revenue over many periods. This depreciation expense is matched to the revenues earned during the period. Note that estimates need to be made. For example, a printing machine that cost $480 000 would have annual depreciation of $120 000, $96 000 or $80 000, depending on whether its estimated life is four, five or six years; that is, the judgement on the useful life of the machine has an impact on profit each year.

Now consider the main expense of the coffee cart mentioned above. Likely expenses include:

- the cost of coffee
- the cost of cups

- wages
- rent of space (e.g. to the university)
- depreciation on the coffee machine
- insurance.

Accrual accounting versus cash accounting

Before considering these complexities, let's consider the basic differences between cash accounting and accrual accounting.

- *Cash accounting* involves recording revenues and expenses at the time the cash is received or paid. This is reasonably precise, because the accountant knows whether cash has been paid or received and the exact amount is easily determined (from accounting books or bank statements).
- However, often the timing of cash flow is in a different accounting period from the substance of the transaction. Examples include selling inventory on credit; when a contractor fixes machinery for your company but will not be paid until a later accounting period; or the use of machinery, which reduces its future useful life. As noted above (but worth repeating), *accrual accounting incorporates these complexities by recording revenues and expenses at the time they occur, not when cash is received.*

Benefits of accrual accounting

The differences between cash and accrual accounting are critical to your understanding so the above points are worth reinforcing. The primary measure of a company's performance is its profit for the period. Profit is measured as revenues minus expenses. The key revenue for most companies comes from the sale of goods or services. The amount of revenue recorded are the amounts expected to be received from providing the good or service regardless of when the customer pays for the goods or services. Expenses represent the amounts paid or owing by the organisation in order to earn the revenues. Some expenses may be paid at the time the expense is incurred but often the amounts will be paid after, or even before, the expense is incurred. For example, you may have done some casual work during the month which is not paid to you by the company until the end of the month. On the other hand, the company will likely pay rent in advance.

The benefits of accrual accounting to the user of financial statements are:

- it includes all assets and liabilities in the balance sheet to give a truer picture of the financial position of the organisation (e.g. accounts receivable and accounts payable)
- it includes all revenues and expenses regardless of whether the cash has yet been received. For example, if a company makes a large sale to an established customer who has always paid its bills, the company would see this as a positive factor. Accrual accounting includes such a transaction in revenues and this more accurately measures profits. Similarly, if the company has received the benefits of services from other organisations then this should be included in expenses and, therefore, impact the performance measure.
- assets are used over a number of years and will benefit the performance of each year. Therefore, in measuring overall performance a share of the costs should be allocated across the life of the asset. This allocation, called depreciation, is included in an accrual accounting system.
- asset and liability values can change over time and these changes need to be included in the performance evaluation where possible.

To compare cash profit with accrual profit, consider the following:

- A company makes credit sales of $100 000 in June, and the cash will be collected in July. Under an accrual system, $100 000 revenue would be included in June, whereas under a cash system the amount would be recognised in July.
- A contractor carries out repair work for your company in June for $20 000, but the bill will not be paid until July. Under an accrual system, the expense would be recognised in June, but under a cash system it would not be recognised until July.

- Under accrual accounting there will be an allocation of the cost of equipment to expenses over several accounting periods to recognise the consumption of the equipment's future economic value. This is called depreciation. If some new equipment cost $80 000 and has a life of eight years, $10 000 depreciation would be included in expenses each year.

HOW'S YOUR UNDERSTANDING?

1B In June, a company makes cash sales of $100 000 and credit sales of $200 000 (all to be collected in July). It pays wages of $60 000 and owes $10 000 for June expenses (to be paid in July).

(i) What is profit using cash accounting?

(ii) What is profit using accrual accounting?

Using accrual accounting to prepare financial statements

Using the accrual accounting approach in preparing the financial statements, attempts are made to:

- include all the cash receipts and payments that have already happened; for example, cash sales and cash payment for wages
- incorporate future cash receipts that should be expected, based on existing transactions; for example, it is necessary to include credit sales now, although the cash will not arrive until the next period
- incorporate future cash payments that need to be paid for goods or services already provided to the organisation
- measure the value of incomplete transactions; for example, estimate the likely amount of accounts receivable that will not be collected or the amount of inventory that is obsolete, and treat these amounts as expenses of this year
- estimate figures when exact amounts are unknown; for example, estimate the amount of interest due from the bank at year-end, even though the bank does not add the interest to your account for another two months – the amount is interest revenue
- make an economically meaningful overall assessment of awkward problems; for example, a customer is suing you for $1 million because of a faulty product. You agree to pay $200 000 in settlement now, but the client takes the matter to court, with the case to be held next year. You need to determine if there is an expense in this year. Complications such as this can be left to later chapters, but it is important to realise early that there are complications in determining profit
- estimate the using up (consumption) of an asset over time (called depreciation), i.e. allocating the cost of the asset to each year over the life of the asset.

Estimates and assessments

Notice the use of the words 'estimate' and 'assessment' above. This illustrates the need for judgements when preparing financial statements under accrual accounting. Examples of estimates are as follows.

- The value of a bank's overseas loans (i.e. the money actually to be received back from those loans) depends on the health of the borrowing countries' economies, stability in international money-transfer arrangements (often disrupted by wars, politics and natural disasters) and the relative values of various countries' currencies, which can change a lot from day to day. In order to judge the value of the bank's uncollected loans, accountants study the loan repayment record of various countries for the bank and estimate how much money the bank will be able to collect.
- The amount of profit that should be recognised during the year by a construction company for a major bridge that will take two years to complete will depend on future expenses. Accountants calculate the costs involved in building the bridge to this point. Based on such estimates as the percentage of the job

completed, he or she also estimates the total likely profit of building the bridge and determines the percentage of profit to be included in this period.

- All companies have to estimate the amount of money owing to employees at the end of each year for wages where the work is done and not yet paid, and calculate the amount owing to employees to be paid in the future for holiday pay, long service leave and superannuation (depends a lot on the type of superannuation plan).

The importance of good judgement

Accrual accounting has been developed because financial statements cannot be based on merely the routine accounting records of what has happened. Measuring economic performance is more complex than that, and the appropriate measures can be elusive or can depend on one's point of view. Many augmentations to the transactional record (estimates, adjustments, judgements and verbal explanations) must be made so that the statements will be meaningful. The resulting statements, therefore, depend to a great extent on the quality and fairness of such augmentations. Managers, accountants and auditors must use their judgement constantly.

Financial accounting, because it relies on many judgements, is far more imprecise than most people (even many regular users of financial statements) realise. To help students understand the reality of modern financial accounting, this book spends much space on the real-life imprecisions of preparing and using financial statements. Accrual accounting is therefore the presumed method in this book, though there will be some comparisons between it and simple cash-based accounting. Modern financial accounting starts with cash receipts and payments, then builds a very large accrual accounting process *in addition to* the cash records in order to provide the sophisticated measures of financial performance and position that today's world demands.

FOR YOUR INTEREST

Many of you will end up working as accountants or managers for organisations that operate in many countries. This book should equip you to understand the financial statements prepared in most countries, including Australia, the United States, the United Kingdom, Canada, New Zealand, China, Singapore, Hong Kong, Indonesia, Malaysia and many others. The methods of preparing financial statements in these countries are very similar. All use the accrual accounting system introduced in this chapter. With the introduction of International Financial Reporting Standards (IFRS) in 2005, differences between financial reporting in these countries are likely to be very small.

1.6 The key financial statements

LO5 Organisations are required to provide the following types of information that are relevant to user needs: financial position, financial performance, financing activities and investing activities.

The key financial statements that provide this information are: a balance sheet, which shows the financial position at a point in time; an income statement, which measures financial performance over a defined period (such as a month or a year) by deducting expenses from revenues during the period to obtain profit for the period; and a statement of cash flows, which shows the sources and uses of cash during the period. Both financing and investing activities are included in this statement.

Balance sheet

Exhibit 1.1 provides an example of a simple balance sheet. The balance sheet shows an organisation's resources and claims on resources at a particular point in time. The heading provides the company name, the title of the report and the date at which the financial position is shown. The three main elements of a balance sheet are assets, liabilities and shareholders' equity. In this case, the organisation is a company, and shareholders' equity is described as shareholders' equity. If the organisation were a sole trader or partnership, it would be called proprietor's equity or partners' equity, respectively.

EXHIBIT 1.1

XYZ LTD

BALANCE SHEET AS AT 30 JUNE 2019

	2019 $000	2018 $000
Assets		
Cash at bank	2 000	1 400
Accounts receivable	16 000	13 000
Inventory	12 000	10 000
Property, plant and equipment	90 000	91 000
Total assets	120 000	115 400
Liabilities and shareholders' equity		
Liabilities		
Accounts payable	17 000	16 800
Wages payable	2 000	2 000
Provision for employee entitlements	4 000	3 000
Long-term loans	30 000	33 600
Total liabilities	53 000	55 400
Shareholders' equity		
Share capital	40 000	36 000
Retained profits	27 000	24 000
Total shareholders' equity	67 000	60 000
Total liabilities and shareholders' equity	120 000	115 400

ASSETS

Assets are the future economic benefits that are controlled by an organisation as a result of past transactions or other past events. The value of every asset needs to be measurable in monetary terms. A brief discussion of the assets in Exhibit 1.1 will make you familiar with the terminology.

- The cash at bank account records deposits to and withdrawals from a bank.
- Accounts receivable (also called debtors) represents amounts owing from customers for goods or services provided to them. Accounts receivable is shown net, which indicates the amount that management expects to collect from customers after allowances have been made for likely uncollectable amounts.
- Inventory generally represents the cost of stock on hand; that is, unsold products.
- Property, plant and equipment includes items such as land, buildings, equipment, motor vehicles, computers and furniture.

Assets can be financed in one of two ways: liabilities and/or shareholders' equity:

Assets = Liabilities + Shareholders' equity

LIABILITIES

Liabilities are the future sacrifices of economic benefits that an organisation is presently obliged to make to other organisations or individuals as a result of past transactions or events. For example, suppliers providing goods on credit and employees carrying out work are examples of past transactions that lead to liabilities.

Liabilities can be legally owed debts, such as loans from the bank, mortgages or amounts due to suppliers. However, they also can be estimates of future payments based on past agreements, such as those arising from promises of future benefits to employees for long service leave, or of warranty repairs for customers when products break down. Liabilities involve the future use of assets, usually cash, or the performance of future services. An example of the former is paying cash to reduce a liability. An example of providing a future service would be carrying out warranty repairs on products previously sold.

Four examples of liabilities in Exhibit 1.1 are accounts payable, wages payable, provision for employee entitlements and long-term loans.

- *Accounts payable* (often called trade creditors) is the amount owed to various suppliers for goods or services they have provided to an organisation.
- *Wages payable* (also called accrued wages) is for work done by employees, but for which they have not been paid.
- *Provision for employee entitlements* refers to entitlements employees accumulate as a result of past work, such as holiday leave, sick leave, long service leave and superannuation.
- *Long-term loans* are loans that are not repayable within a year.

SHAREHOLDERS' EQUITY

Shareholders' equity is the excess of assets over liabilities. It is a residual claim of the shareholders on the assets of the organisation. Shareholders' equity consists of two main elements: share capital and retained profits.

- *Share capital* is the amount that owners have directly invested in the company.
- *Retained profits* represent the total cumulative amounts of profits that the company has retained in the business rather than distributed as dividends.

The relationship between assets, liabilities and shareholders' equity can be expressed in the following accounting equation:

Assets = Liabilities + Shareholders' equity

This equation shows that the resources of an organisation are funded from two types of sources: debt or equity. The effects of transactions on this equation are discussed in Chapter 2. At this point you should note that the equation balances at every point in time.

HOW'S YOUR UNDERSTANDING?

1C For each of the following items state whether they are assets (A), liabilities (L), shareholders' equity (SE) or not listed in the balance sheet:

(i) accounts receivable
(ii) accounts payable
(iii) sales revenue
(iv) share capital
(v) equipment
(vi) loans.

Comparative balance sheets

Note that the balance sheet in Exhibit 1.1 shows numbers for 2018 and 2019. The changes from 2018 to 2019 provide the reader with information about what is happening to various account balances; for example, cash at bank has increased from $1400 to $2000. The statement does not tell us the reasons for the change, but it is possible to obtain information on the change in this account in the statement of cash flows provided in Exhibit 1.3 (to be discussed later). While some of the reasons for the changes in other balances are too complicated for this introductory chapter, you will be able to understand the changes after you have completed the next two chapters (we will return to Exhibit 1.1 in Chapter 2). For now, consider some preliminary ideas:

- What would be a likely explanation for the increase in accounts receivable? Most likely credit sales (this would increase accounts receivable) are greater than cash received from customers related to credit sales (this would decrease accounts receivable).
- What does the increase in share capital mean? This normally indicates that there have been shares issued during the year.
- The long-term loans have decreased from $33 600 to $30 000, indicating the company has borrowed less than it has repaid on the loans.

HOW'S YOUR UNDERSTANDING?

1D Consider the following questions:

(i) If the balances of total assets and shareholders' equity are $100 000 and $40 000, respectively, what is the balance of total liabilities?

(ii) If the balances of total liabilities and shareholders' equity are $200 000 and $300 000, respectively, what is the balance of total assets?

(iii) Given the balances of assets $300 000, liabilities $200 000 and share capital $60 000, what is the balance of retained profits?

Income statement

In previous years, the income statement was called the profit and loss statement. Some companies may continue to use that terminology within their internal reports, so you should at least be aware of it.

The income statement provides information on an organisation's profitability for a period of time. It matches revenues during a period against expenses incurred in earning the revenues. The difference is the profit (revenue greater than expenses) or loss (expenses greater than revenue). Recall that under an accrual accounting system, the cash related to the revenue or expense does not have to be received or paid in order for the revenue or expense to be included in the income statement. Discussion of when revenue and expenses are recognised is included in Chapter 2.

Exhibit 1.2 provides an example of a simplified income statement. Sales is the only revenue item listed. The next item in the income statement is cost of goods sold (COGS). For a retailer, this would be the purchase price of the goods that are sold. For example, if a retailer sells 100 items at $20 each and the cost price of each of the items is $8, sales revenue would be $2000 ($20 × 100) and cost of goods sold would be $800 ($8 × 100). The difference between sales revenue and cost of goods sold is called gross profit (also gross margin).

The income statement also lists various operating expenses, as shown in Exhibit 1.2. These costs relate to the day-to-day running of the business.

EXHIBIT 1.2

XYZ LTD

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE 2019

	$000	$000
Sales revenue		21 000
Less Cost of goods sold		8 000
Gross profit		13 000
Less Operating expenses		
Salaries	2 500	
Depreciation	500	
Electricity	300	
Travel	300	
Other	400	4 000
Operating profit before tax		9 000
Less Income tax expense		3 000
Operating profit after tax		6 000

Many other operating expenses, such as advertising, staff training, maintenance, telephone and motor vehicle expenses, could also be included. Deducting these operating expenses from gross profit gives operating profit before tax. Tax is then deducted to give operating profit after tax.

The profit figure of $6 million can be paid out in dividends to shareholders or retained in the business. This is the connecting link between the balance sheet and the income statement. The opening balance of retained profits plus the profit for the year minus dividends equals the closing balance of retained profits as shown in the balance sheet.

Companies provide a separate statement or note to the accounts showing the change in retained profit for the year. For example, if XYZ's opening retained profits were $24 million, net profit for the year was $6 million and dividends of $3 million were declared and paid, we would see the following statement in the notes to the accounts for retained profits.

	$ million
Opening balance	24
+ Net profit	6
	30
− Dividends declared and paid	3
Closing balance	27

Statement of cash flows

Because revenues reported usually do not equal cash collected and expenses do not equal cash paid, net profit is different from the change in cash for the period. The statement of cash flows shows the changes during the period in one balance sheet account, namely cash. It shows the receipt of cash and the payment of cash. Accounting standards require companies to present this statement in their published financial statements. Individual transactions are normally split into the following three categories:

1. operating activities: related to the provision of goods and services
2. investing activities: related to the acquisition and disposal of certain noncurrent assets, including property, plant and equipment
3. financing activities: related to changing the size and composition of the financial structure of the entity, including equity and certain borrowings.

Exhibit 1.3 provides an example of a statement of cash flows. Under cash flows from operating activities, it shows that the company received $17 million from customers, and paid $7.7 million and $2.5 million to suppliers and employees respectively, as well as paying $4.3 million in other operating costs.

EXHIBIT 1.3

XYZ LTD

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 JUNE 2019

	$000
Cash flows from operating activities	
Receipts from customers	17 000
Payments to suppliers	(7 700)
Payments to employees	(2 500)
Cash operating costs	(4 300)
	2 500
Cash flows from investing activities	
Purchase of machinery	(2 300)
Cash flows from financing activities	
Issue of shares	4 000
Bank loan	(3 600)
	400
Total net cash flows	600
Cash: 1 July 2018 (opening balance)	1 400
Cash: 30 June 2019 (closing balance)	2 000

Note that these figures are not the same as those in the income statement. For example, the company could have made $21 million in credit sales, but only collected $17 million from customers by the end of the year. There was only one investing item, being the cash paid for a new machine. Cash flows from financing activities show that the company received $4 million from an issue of shares, but paid back a $3.6 million bank loan. The net effect on cash of all of the above transactions was an increase of $600 000. When added to the opening balance of $1.4 million, it shows a closing balance of $2 million, which is also the figure shown under cash in the balance sheet. Statements of cash flows will be discussed in detail in Chapter 14.

Relationships between the financial statements

Exhibit 1.4 shows the main relationships between the various financial statements. We have abbreviated the balance sheet, the income statement and the cash flow statement in Exhibits 1.1, 1.2 and 1.3 to make the relationship clearer. The cash flow statement explains the change in cash in the balance sheet from $1400 to $2000. This change will be from cash flows from operating, investing and financing activities, and a closer examination of Exhibit 1.3 will show which cash flows have the major impact. Net profit of $6000 for the year appears in the income statement, and this amount increases retained profits. How this works can be seen in the note on retained profits, which has increased from $24 000 to $27 000, due to the net profit for the year less the dividends declared and paid; that is, the amount of net profit not used for dividends increases the balance of retained profits.

EXHIBIT 1.4

XYZ LTD

RELATIONSHIPS BETWEEN THE STATEMENTS (BASED ON EXHIBITS 1.1 TO 1.3)

	2018	2019		
Balance sheet			**Cash flow statement**	
Cash	1 400	2 000	From operating activities	2 500
Other assets	114 000	118 000	From investing activities	(2 300)
Total assets	115 400	120 000	From financing activities	400
Liabilities	51 400	53 000	Total net cash flows	600
Share capital	40 000	40 000	Opening balance	1 400
Retained profits	24 000	27 000	Closing balance	2 000
Total liabilities and shareholders' equity	115 400	120 000		
Retained profits note			**Income statement**	
2018 balance		24 000	Revenues	21 000
+ Net profit		6 000	Expenses*	15 000
		30 000	Net profit	6 000
− Dividends		3 000		
2019 balance		27 000		

*From Exhibit 1.2, total expenses = COGS + Operating expenses + Income tax expense = 8000 + 2500 + 500 + 300 + 300 + 400 + 3000 = 15 000

HOW'S YOUR UNDERSTANDING?

1E If the opening balance in retained profits is $100 000, net profit after tax is $60 000 and dividends declared and paid is $40 000, what is the balance of retained profits at year-end?

1.7 Demands on the quality of financial accounting information

LO6 Let's think about what the users of financial information (such as the board of directors, the analyst, the banker and the supplier discussed in section 1.3) might reasonably expect of the financial statements. The important accounting concepts and principles involved are described in italics.

1. The financial statements need to contain information that is useful to those who are making the decisions. The information must have value in helping the financial analyst or the bank lending officer make their recommendation. In addition, the information to be provided needs to be supplied in a timely manner. For example, some of the decisions by the board of directors, the analyst, and the banker and the supplier noted earlier need to be made at a certain point in time. While the outcome of a particular contract may be relevant information, the decisions often cannot wait until that contract has been finalised.

   This is the concept of relevance. If information is to assist users in making decisions about the allocation of scarce resources, it should help them make, confirm or correct predictions about the outcomes of past, present or future events.

2 The financial statements should not be deliberately misleading. They should be free from bias. They should not be designed to lead users towards conclusions that are desired by the preparers. If accounting information is to tell people about the economic forces affecting the company, and the business arrangements the company has made to deal with those forces, it should connect to such important underlying phenomena. The bank loans officer would want to feel confident that the statements were not prepared in such a way as to make the company appear to be a better lending risk than it is. Similarly, the board of directors would want the statements to provide an objective portrayal of the CEO's performance in running the company.

This is the criterion of 'faithful representation', previously referred to as reliability. The financial statements should report the economic substance of events happening to the company, and the numbers should measure the events neutrally, neither overstating nor understating their impact. Information should, without bias or undue error, faithfully represent those transactions and events that have occurred. To have perfect faithful representation the financial information needs to be complete, neutral and free from error. While such perfection is seldom completely achievable, the board of directors' objective is to maximise these qualities.

3 Preparing financial statements, like any other activity, costs money and takes time. Most people would be satisfied if the statements were fair in relation to the important things and would not mind a few minor errors in them, especially if preventing small errors would cost the company money (reducing the company's profit and cash flow) or delay the release of the statements.

This is the criterion of 'materiality' (significance). The materiality concept is concerned with assessing whether omission, misstatement or non-disclosure of a piece of information would affect the decisions of users of the accounting reports. Just what is or is not material is a matter of judgement, and has been the subject of considerable research and study by accountants and auditors. Usually, people judge materiality by considering the size of a possible error compared to the net profit or the total assets. For example, an accountant or auditor might judge that an error over 5 per cent of net profit or 1 per cent of total assets is material and a smaller one is not. But, as you might expect, the materiality judgement depends on any particular uses of the information that are expected, and on whether the error moves the profit to a loss or violates some condition in a loan agreement.

4 There needs to be some standard against which an accounting method or number can be judged. The financial analyst would like to know that the company's financial statements were presented fairly, in all material respects, given accepted current methods. The company is actually a group of companies, so its financial statements are consolidated (combined), and it would be reasonable to expect that the company's method of calculating consolidated figures was proper.

This is where 'generally accepted accounting principles (GAAP)' come in. To assure the users that accepted methods have been followed, the auditor's report also says that the auditor's opinion is that the statements have been prepared in accordance with generally accepted accounting principles. This does not mean that one particular method has been followed: GAAP often include several acceptable methods, depending on the circumstances. Therefore, the auditor is saying that the company's accounting methods, and the resulting figures, are appropriate to its circumstances.

5 The previous criteria indicate that the financial statements necessarily reflect judgement on the part of the preparers. Also, the figures in the statements are summaries of many accounts; for example, 'accounts receivable' and 'long-term debt' may include dozens or thousands of different customers or debts. The bank loan officer may want to know what sort of long-term debts the company has, so that they may be evaluated against the bank borrowing by the company. The bank would not want other creditors to interfere with the company's ability to pay back the bank. The financial analyst may want to know if the company has made commitments to issue more shares (such as in a plan to motivate senior management by issuing shares to them cheaply if they perform well), because those might reduce the equity of anyone buying the shares now.

This raises the principle of disclosure. The financial statements include a large number of notes and account descriptions intended to make it clear to the reader which important accounting methods have been followed (especially if those methods are not what might be expected) and to provide supplementary information on debts, share capital, commitments, law suits and other things thought to be helpful, or necessary, in understanding the statements. Disclosure beyond the accounting figures is becoming increasingly extensive: many pages of notes often accompany the set of statements, and companies disclose additional information to taxation authorities, to securities regulators (such as the Australian Securities and Investments Commission and the US Securities and Exchange Commission) and to important other parties who have a reason to get the information (such as the bank loan officer and the financial analyst). More recently, there are increased disclosures related to environmental and human capital issues. These disclosures are important as stakeholders are interested in a company's performance in this area and because they can affect future financial performance.

6 The board, the banker, the analyst and the supplier would like information they can understand. Undoubtedly, their ability to understand will depend on their knowledge of accounting, as financial reports are prepared for users who have a reasonable knowledge of business including accounting. Hopefully, this will be you in a few years.

This principle is called understandability. Reports should be prepared having regard to the interests of users who are willing to exercise diligence in examining the reports, and who possess the skills and ability to comprehend contemporary accounting practices.

7 The banker and the financial analyst are also involved with other companies. They would like to be able to compare the company's financial statements with those of similar companies. It may be difficult to be sure that a company is performing well or badly in an absolute sense, but it can always be compared to others, as long as the financial statements have been prepared in a comparable way.

You will not be surprised that this principle is called comparability. It will be important when we review techniques for financial statement analysis in Chapter 15.

8 The banker, the analyst and the board of directors will also want to study the trend in financial performance and position over time. Is the net profit improving over time, or deteriorating? How about the ratio of debt-to-equity financing? It is important to know if significant events have happened to make comparisons over time difficult or even impossible. It is also important to know if the company has changed its accounting methods over time, because such changes may affect the comparability of the accounting figures from year to year.

Keeping the same accounting methods over time is called consistency. If the company is following GAAP, consistent methods will be used, or the reader of the statements will be told if a change has been made, and what the effects of changes in accounting methods are (if they are material). Note that consistency does not mean that a company has to use the same accounting method in all parts of the company. For example, different depreciation methods can be used for different assets.

We can formalise some of the above ideas by relating them to the conceptual framework put out by the Australian Accounting Standards Board (AASB) in its document *Framework for the Preparation and Presentation of Financial Statements* (hereafter called the Framework). The Framework, which was revised in December 2013, notes that these qualitative characteristics are the attributes that make the information in the financial reports useful to users. It lists two fundamental qualitative characteristics: relevance and faithful representation. In addition, it notes that comparability, verifiability, timelines and understandability are characteristics that enhance the two fundamental characteristics.

In summary, the qualitative characteristics set out in the Framework are:

1 Fundamental qualitative characteristics:
- relevance
- faithful representation.

2 Enhancing qualitative characteristics:
- comparability
- verifiability
- timeliness
- understandability.

The terms 'relevance' and 'faithful representation' were discussed earlier. If you are not sure of their meaning, you should go back and re-read those descriptions. Below we elaborate on the four enhancing qualitative characteristics (based on the Framework).

- *Comparability:* information about one organisation is more useful when it can be compared with similar information from another organisation and also is comparable over time within the same organisation. In terms of *comparability*, GAAP contains many detailed rules with several industry exceptions and alternative accounting policies for the same transactions. All these exceptions and alternative treatments certainly lead to some difficulties in making comparisons across companies. Analysts often come up with their own standard way of presenting accounting data by taking published financial data and converting it to their own requirements.
- *Verifiability:* the numbers in the financial statements can be verified directly by looking at documentation (e.g. the cost price of equipment) or through direct observation (e.g. counting cash or inventory). They can also be verified indirectly by checking inputs to a model formula and recalculating the outputs.
- *Timeliness:* refers to having information available when users need to make their decisions. However, having information earlier rather than later can mean that it is less complete. For example, certain estimates become more accurate over time (e.g. the estimate of uncollectable accounts receivable, discussed in Chapter 8, or the obsolescence of inventory, discussed in Chapter 9 or estimates of depreciation of assets, discussed in more detail in Chapter 10). Liabilities related to certain past acts may also become more accurately measured as time passes (e.g. after court deliberations). However, the characteristic of timeliness incorporates the idea that it is important to have the information when the decision is being made.
- *Understandability:* information is more useful if it is understandable to informed decision-makers. Understandability can be increased by presenting information in a clear and concise manner. The Framework states that users are expected to have a reasonable knowledge of business, economic activities and accounting, and a willingness to study the information with reasonable diligence. However, there is a caveat: information about complex matters, if relevant to users, should not be excluded on the grounds that it is too difficult for users to understand.

FOR YOUR INTEREST

The accounting profession has been criticised for the increased complexity of financial reports, where the notes to the accounts can exceed 50 pages. One reason is the increased complexity of transactions and the increased need for estimates. For example, when senior executives are only paid a salary, reporting of executive remuneration is much easier than when they get additional share options and various incentives based on accounting numbers. Also, given the legal consequences and penalties for omission of required data, it is likely for management to over-report rather than under-report when there is uncertainty. There are taskforces and committees considering these issues at present.

What does all this mean for you as an introductory accounting student? These accounting standards are continually being considered around the world. Some important changes in accounting have already occurred and others are still emerging. Accounting is not static; the better you understand the basic fundamentals of accounting, the better you will be able to cope with these changes.

Trade-offs among accounting principles

If you think about the criteria and principles mentioned above (i.e. relevance, faithful representation, materiality, conformance with GAAP, disclosure, understandability, comparability and consistency), you may see that they do not always fit together well. For example, it would seem sensible to propose that the more faithfully representative the accounting information is, the better. You can achieve this by being very careful about how you prepare it, checking it carefully and having the auditors come in and verify it, and maybe even waiting until some major uncertainties are resolved, so you do not have to estimate them. It also seems sensible that decision-makers need information that is relevant to their decisions when they are making them. This means that information should be timely: people should not have to wait for the information they need.

In this light, let's consider a company trying to report on its liability to employees for long service leave. It has thousands of employees who will take this time off over the next 40 years, if they do not leave the employer earlier. The dollar amount of long service leave paid will depend on how much the employees earn when they take the leave, and that is not yet known for most of them. The amount of leave depends on how long the employees have been with the firm. Under most employment awards, it starts to accumulate after 10 or 15 years of service. For each extra year of service it increases at different rates. If the employee leaves before 10 years of service, no amount normally needs to be paid unless the employee's leaving was involuntary.

How is that for a mass of uncertainty? Any number you come up with for the long service leave liability will be based on all sorts of estimates of unknown future events. Therefore, to get a liability figure that faithfully represents the liability, you really have to wait 20 or 30 years until most of the employees have retired or taken their leave. You can always expect to get more reliable data by just waiting a while, even years, to see how things turn out. But waiting 20 or 30 years will hardly provide timely information that is relevant to decisions such as those being made by the board of directors, the investment analyst, the banker and the supplier mentioned above. Such decisions require the best information we can come up with now, even if it is necessarily based on estimates and assumptions. As time passes, faithful representation rises and relevance falls, so we have to try to find some midpoint where there is enough of both, even though we may prefer even more of one or both of these attributes.

1.8 Financial statement assumptions

LO6 Now that you have seen the financial statements and the basic principles upon which accounting relies, it is important to understand some basic assumptions underlying current accounting practice and the preparation of financial statements. The following concepts (or assumptions) are discussed below: accrual basis, going concern, accounting entity, accounting period, monetary and historical cost.

- *Accrual basis:* financial reports are prepared on the accrual basis of accounting; that is, the effects of transactions and other events are recognised as they occur, regardless of whether cash is received or paid at that time. The use of accrual accounting provides a better basis for assessing an entity's past and future performance than information only related to cash receipts and cash payments during a period.
- *Going concern:* financial statements are prepared on the premise that the organisation will continue operations as a going concern in the foreseeable future. If this is not the case, it is necessary to report the liquidation values of an organisation's assets, i.e. what the assets could be sold for. Consider the following example. Assume last year your university completely remodelled your classrooms with new carpet, tiered seating and new inbuilt projection equipment. Under historical cost, the cost of all those renovations would be recorded as an asset and then depreciated over the life of the asset. If the costs were $10 million and depreciation in year 1 was $1 million, the book value (cost – accumulated depreciation) would be $9 million. This is the amount that would appear on the balance sheet. However, if the government closed your university – that is, it is no longer a going concern – the assets would need to be recorded at liquidation value. Basically, they would be recorded at what they could be sold for. Note that there is not much of a second-hand market for tiered seating to fit a certain size of room,

or carpet that has been cut to fit that room. Liquidation value in this case would likely be a lot less than historical book value.

- *Accounting entity:* under this concept, the accounting entity is separate and distinguishable from its owners. For example, the accounting entity of a sole trader is differentiated from the financial affairs of the owner. Similarly, a company is a separate entity from its shareholders. If either the sole trader or a shareholder of a company goes out and buys a new set of golf clubs, it may affect his or her personal finances but does not affect the accounting entity. Accounting entities do not necessarily correspond to legal entities. For example, as noted above, the personal financial affairs of the sole trader can be separated from the finances of the business, although there is no legal distinction. This concept puts a boundary on the transactions that are to be recorded for any particular accounting entity. It also allows the owner to evaluate the performance of the business.
- *Accounting period:* the life of a business needs to be divided into discrete periods to evaluate performance for that period. Dividing the life of an organisation into equal periods to determine profit or loss for that period is known as the accounting period concept. The time periods are arbitrary, but most organisations report at least annually, with large companies preparing half-yearly and quarterly financial statements for outside purposes (in some countries) and at least monthly (sometimes more frequently) financial statements for management purposes.
- *Monetary:* accounting transactions need to be measured in a common denominator, which in Australia is, not surprisingly, the Australian dollar. This allows comparisons across periods and across different companies. Transactions that cannot be reasonably assigned a dollar value are not included in the accounts. This concept also assumes that the value of the monetary unit is constant over time, which ignores inflation.
- *Historical cost:* under the historical cost concept, assets are initially recorded at cost. As you will see in later chapters, many assets, such as inventory, will still be recorded at cost in the balance sheet in subsequent periods although their value has increased. Some other assets – such as property, plant and equipment – can be revalued periodically. Thus, in reading a balance sheet it is important to note at what valuation the assets are being recorded.

Some of these basic concepts have already been briefly mentioned earlier in this chapter, and all will be referred to again throughout the book. We note that the Framework only lists accrual accounting and going concern as the basic assumptions of financial reporting, but many authors, including us, would also include the accounting entity, accounting period, monetary assumptions and historical costs.

1.9 Is accounting really important?

In case you are not convinced that accounting numbers (profit and balance sheet figures) are important, we hope the following examples may convince you. Concrete examples of our suggestions appear in the financial section of most newspapers every day. Our examples below show that a lot of emphasis is placed on accounting figures (especially profits) in decision-making by management and by users such as shareholders and creditors, corporate boards and consumer groups, as well as their impact on a range of other community groups. LO7

a. *Used by management in making business decisions*. Accounting numbers have an important impact on management decisions to contract and expand the business, which in turn affect employees, suppliers, contractors and the economy. For example, the availability of large sums of cash, undrawn debt facilities, and growing cash flows enable companies to take advantage of opportunities to expand by acquiring other businesses. On the other hand, businesses are often put up for sale when they cannot provide the financial performance (as measured by accounting numbers) to give investors the return they want, or they take actions including cutting staff numbers and/or selling off some other parts of the business.

b *Used by shareholders for decision-making purposes (and impact on shareholders).* Both good and bad accounting news often has a big impact on the share market (see Chapter 6 for a more sophisticated discussion). In particular, when companies announce bad news their share prices are usually adversely affected and sometimes the drops can result in a $100 million plus decrease in the value of the company.

c *Used by bankers and other creditor groups.* Bankers use accounting numbers to decide whether to lend, to determine the level of risk and often the interest rate to charge. Rating agencies such as Standard & Poor's and Moody's use accounting numbers to give their credit ratings, which have an impact on the interest rates companies have to pay. Weaker accounting numbers can result in the loss of the much desired AAA credit rating. This applies not only to companies but State governments which have received warnings about ongoing deficits, growing risk and the decline in debt ratios.

d *Used by corporate boards in rewarding and removing executives.* Most executive compensation schemes include performance bonuses, and accounting numbers are key components of these performance hurdles. You will find many reports of pay changes of many millions of dollars for CEOs of the largest companies due to meeting or not meeting profitability targets.

e *Used by unions and management in negotiating wage agreements*. In pay disputes, both managers and unions often use accounting numbers to support their case. For example, the higher the profits, the more likely the pay increases. Unions often refer to the company's high profit levels when arguing for higher wages.

f *Impact on the community and consumers*. Dwindling profits have resulted in movement of sporting events (e.g. moving the Australian Grand Prix), changing budget allocation to TV stations which affect the programs they offer, music festivals cancelled in future years, etc.

g *Impact on employees and jobs*. Accounting numbers can lead to corporate failure, with resulting consequences for workers. In Australia, there have been major losses of jobs in the car manufacturing industry which has been closed down due to falling profits. For example, cessation of manufacturing of Holden resulted in the loss of approximately 3000 jobs at Holden, but many other job losses in companies that were suppliers of tyres, steering wheels, etc.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Classification of items

Listed below are balances at 30 June 2019.

	$
Cash at bank	210 000
Inventory	60 000
Sales	210 000
Wages	40 000
Cost of goods sold	70 000
Share capital	140 000
Accounts payable	30 000

1 Classify each account as an asset, liability, revenue, expense or equity.
2 Prepare an income statement for the period ending 30 June 2019.
3 Prepare a balance sheet at 30 June 2019.

PRACTICE PROBLEM B

Accrual profit

1 During the accounting period, Green Limited received $750 000 from sales and paid out $580 000 in wages and other expenses. However, an extra $260 000 worth of sales were made during the year but the cash has not been collected yet. The company also owes $240 000 for various expenses. What is the accrual profit?
2 Green Limited purchased 3000 items for $5 each on credit and sells 2000 of these items on credit for $8. What is the sales revenue and cost of goods sold for the period?

PRACTICE PROBLEM C

Calculate shareholders' equity

Given the following information relating to Penguin Ltd, what is the balance of shareholders' equity? (Remember A = L + SE)

	$
Property, plant and equipment	1 500 000
Accounts receivable	400 000
Cash	100 000
Inventory	500 000
Bank loan	250 000
Wages payable	90 000

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 What is the basic purpose of financial accounting?
2 Distinguish between financial performance and financial position.
3 What is the difference between financial and management accounting?
4 Who are the main parties that comprise the social setting of accounting?
5 What is meant by credible periodic reporting? What prevents organisations from making financial statements increasingly credible? (Consider cost–benefit implications.)
6 List four important users of financial accounting and describe the use that each user would make of the information.
7 Do all users of financial accounting have the same information needs? Why or why not?
8 List some similarities and differences between the need for financial information for shareholders and bankers.
9 List five situations in which judgement is required by the preparers of financial information.
10 What does an audit achieve?
11 Describe what is meant by accrual accounting. How does it differ from cash accounting?
12 Who uses accrual accounting?
13 Consider the following accounts: accounts payable, accounts receivable, cash and inventory. Which of these terms would you see in financial statements prepared under (a) accrual accounting and (b) cash accounting?
14 What are the three key financial statements, and what relevant information do they provide to users of accounting reports?
15 Explain, in simple terms, each of the following financial accounting terms:
   a accounting entity
   b accounting period
   c monetary
   d historical cost
   e going concern
   f materiality.
16 What are the fundamental qualitative characteristics of useful financial information and what are the enhancing characteristics?
17 Provide an example of trade-offs among accounting principles.
18 The Framework states that understandability is an enhancing qualitative characteristic. Is this consistent with the huge complexity in financial statements?

PROBLEMS

PROBLEM 1.1

What are various people's interests in financial accounting?

Briefly describe what each of the following people would likely want to learn from the financial statements of BrandX Ltd, and how each might be affected if the statements showed good or bad financial performance or financial position.

1 The chief executive officer (CEO) of the company
2 The company's chief financial officer (CFO)

3 The chairperson of the company's board of directors (the board evaluates the CEO's performance on behalf of the shareholders)
4 The partner of auditing firm Dimbleby & Co., for whom BrandX is a client
5 The local manager of tax collections for the Australian Taxation Office
6 John Flatstone, who owns 100 shares of BrandX
7 Mildred Evans, who is thinking of buying some shares of the company
8 The local manager of Big Bank, which has made a large loan to BrandX

PROBLEM 1.2

What are various people's interests in financial accounting?

Briefly describe what each of the following groups would like to know from the financial statements of the Swans Football Club.

1 The CEO
2 The players
3 The supporters
4 The suppliers of gourmet pies and beer for home games

PROBLEM 1.3

Users and their needs

Accounting information is demanded by a wide range of external users, including shareholders, bankers, suppliers, trade unions, the Australian Securities and Investments Commission (ASIC) and the Australian Taxation Office (ATO). Which user is likely to seek each of the following types of information?

1 The profitability of each division in the company
2 The likelihood of the company meeting its interest payments on time
3 The prospects for future dividend payments
4 The probability that the company will be able to pay for its purchases on time
5 The profitability of the company based on the tax law
6 The change in profitability of the company since the last contract with employees was signed
7 The disclosures on the financial position and performance of a company issuing shares to the public for the first time.

PROBLEM 1.4

Calculate accrual accounting profit

Paul Jones set up his own catering business on 1 July 2018. During the 12 months up to 30 June 2019 the following transactions occurred:

1 Paul put $30 000 of his own money into the business.
2 He borrowed $40 000 from the bank for one year at 5 per cent per annum, with interest to be paid at the end of the loan.
3 He paid $12 000 in wages and owed $2400 in wages for work done.
4 He bought catering equipment for $8000, which has an expected useful life of four years.
5 He paid other expenses of $10 000.
6 Paul sent bills for $60 000 to customers for work performed between 1 July 2018 and 30 June 2019. By 30 June he had received $55 000 and expected the other $5000 by August.

Using the concepts of accrual accounting, calculate Paul's profit for the year ended 30 June 2019.

PROBLEM 1.5

Accrual profit

Lock Limited made cash sales of $650 000 and credit sales of $270 000 ($150 000 of which had been collected by year-end). It paid $400 000 in expenses and owed $220 000 at year-end. What was the accrual profit?

PROBLEM 1.6

Calculate accrual accounting profit

James Smith started a consulting business on 1 January 2019. During the period up to 30 June 2019, the following transactions occurred:

1 James put $40 000 of his own money into the business.
2 He borrowed $40 000 from the bank at 10 per cent per annum for one year with interest to be repaid at the end of the loan.
3 He sent bills for $37 000 to customers for work performed. By 30 June he had received $30 000 and expected the other $7000 in July.
4 He bought equipment for $8000 that has an expected useful life of four years.
5 He paid $14 000 in wages.
6 He paid other expenses of $15 000.
7 He received a $3000 bill for advertising (appeared in newspapers in May; will be paid in July).

Using the concepts of accrual accounting, calculate James' profit for the four months ending 30 June 2019.

PROBLEM 1.7

Accrual profit

1 During the year ended 30 June 2019, French Horn Ltd made cash sales of $100 000, credit sales of $200 000 ($50 000 of which were still to be collected at year-end), and received $25 000 owing from credit sales, which occurred in May 2018. What is French Horn's sales revenue for the year ended 30 June 2019?
2 Also during the year ended 30 June 2019, French Horn paid $60 000 and owed $10 000 in employee wages. Of the $60 000 paid, $5000 related to wages payable as at 30 June 2018. What is the total of French Horn's accrual accounting expenses?
3 What is French Horn's accrual accounting profit for the year ended 30 June 2019?

PROBLEM 1.8

Prepare a balance sheet and calculate profit

1 Given the following balances, prepare a balance sheet as at 30 June 2019 for Willow Tree Limited.

	$
Share capital	260 000
Bank loan	40 000
Accounts payable	80 000
Wages payable	60 000
Inventory	170 000
Cash at bank	70 000
Buildings	200 000
Retained profits	90 000
Accounts receivable	90 000

2 The company did not declare any dividends during the year. Its balance in retained profits at the start of the year was $70 000. What is the profit for the year?

PROBLEM 1.9

Contents of financial statements

Match each item with the financial statement it would appear in by ticking the appropriate column.

Item	Balance sheet	Income statement	Statement of cash flows
Wages expense			
Cash paid for equipment			
Cash at bank			
Equipment			
Cash flow from customers			
Accounts payable			
Cash paid to employees			
Sales revenue			

PROBLEM 1.10

Comparing net profits and cash flow

Kingsford Customs was founded on 1 July 2019. At the end of the first year's operations, the following summary of its activities has been prepared by the owner.

1. Borrowed cash of $60 000 from CAA Bank.
2. Employees earned $96 800 of wages, of which $40 000 is to be paid in the next accounting period.
3. Performed customised services that generated sales revenue of $243 300, of which $100 000 remained uncollected at the end of the year.
4. Other operating expenses, including phone bills and electricity amounting to $26 800, were incurred during the year. Of this amount, $10 000 remained unpaid at the end of the year.

Show the effect on net profit and cash of each of the above transactions for this accounting period.

PROBLEM 1.11

Contents of financial statements

Match each item with the financial statement that it would appear in by ticking the appropriate column.

Item	Asset	Liability	Shareholders' equity	Revenue	Expense
Inventory					
Cleaning expenses					
Cash at bank					
Marketing expenses					
Buildings					
Income taxes payable					
Loans from banks					
Accounts payable					
Retained profits					
Accounts receivable					
Income tax expense					
Cost of goods sold					
Sales revenue					

PROBLEM 1.12

Classification of items

Listed below are balances for 2019.

	$
Accounts receivable	100 000
Sales	250 000
Electricity	30 000
Retained profits	70 000
Loan	200 000
Transportation costs	10 000

1 Classify each account as an asset, liability, revenue, expense or equity.
2 Prepare an income statement for the period ending 31 December 2019.

PROBLEM 1.13

The accounting equation

Cardigan Ltd has total assets of $150 000 and liabilities that add up to $70 000 as at 30 June 2018.

1 What is Cardigan's shareholders' equity as at 30 June 2018?
2 During the year to 30 June 2019, Cardigan's total assets increase by $63 000 while total liabilities increase by $25 000. What is the amount of Cardigan's shareholders' equity on 30 June 2019?
3 Now assume that in the year to 30 June 2019, Cardigan's total liabilities increase by $20 000 and its shareholders' equity decreases by $12 000. On 30 June 2019, what is the level of Cardigan's total assets?
4 Assume that in the year to 30 June 2019, Cardigan's total assets double while its shareholders' equity remains unchanged. What are its total liabilities as at 30 June 2019?

PROBLEM 1.14

The accounting equation

Use the accounting equation to answer the following questions.

1 Pillow Ltd halved its liabilities during the year. At the beginning of the year, the amount of total assets was $80 000 and owners' equity was $50 000. What is the amount of Pillow's total liabilities at the end of the year?
2 Buffalo Ltd began the year with assets of $60 000 and liabilities of $25 000. Net profit for the year was $43 000. What is the amount of owners' equity at the end of the year?
3 During the last financial year, Sparkle Industries tripled the amount of its assets. At the end of the year, total liabilities amounted to $57 000 while owners' equity was $15 000. What was the amount of total assets at the beginning of the year?

PROBLEM 1.15

Matching financial statement items to statement categories

Raindrop Holdings Ltd is a public company. Below are items taken from its recent consolidated balance sheet and consolidated income statement. Note that different companies use slightly different titles for the same item. Mark each item in the following list as an asset (A), liability (L) or shareholders' equity (SE) that would appear on the balance sheet, or revenue (R) or expense (E) that would appear on the income statement.

1 Property, plant and equipment
2 Sales revenue
3 Trade and other payables
4 Advertising costs
5 Provisions

6 Inventories
7 Prepayments
8 Revenue received in advance
9 Reserves
10 Cash and cash equivalents
11 Depreciation
12 Cost of sales

PROBLEM 1.16

Income statement

Given the following information, prepare an income statement for PK Ltd for the year ended 30 June 2019.

	$
Sales	350 000
Cost of goods sold	200 000
Rent expense	30 000
Wages	75 000
Advertising	25 000
Training expense	9 000

PROBLEM 1.17

Income statement

Given the following balances, prepare an income statement for the year ended 30 June 2019 for Bush Traders.

	$
Sales	480 000
Cost of goods sold	210 000
Wages	80 000
Electricity	40 000
Travel	20 000
Advertising	10 000

PROBLEM 1.18

Analysing revenues and expenses and preparing an income statement

Assume you are the owner of Double Café, a coffee shop in Sydney's CBD. At the end of June 2019, you find (for June only) this information:

1 Sales, as per cash register records, of $47 000, plus sales on credit (two birthday parties) of $750.
2 The cost of goods sold during June had cost $16 000 consisting of coffee, cups and cakes.
3 During the month, according to the cheque book, you paid $14 000 for salaries, rent, advertising and other expenses; however, you have not yet paid the $680 monthly bill for electricity for June.

On the basis of the data given (disregard income taxes), what was the amount of net profit for June? Show computations.

PROBLEM 1.19

Calculate shareholders' equity

GT Limited has the following assets and liabilities.

	$
Cash	100 000
Loan	150 000
Accounts payable	110 000
Accounts receivable	170 000
Equipment	200 000

1 Classify each balance as an asset or a liability.
2 Calculate shareholders' equity.

PROBLEM 1.20

Calculate shareholders' equity

Given the following information relating to Stripes Ltd, what is the balance of shareholders' equity?

	$
Land and buildings	2 800 000
Accounts payable	250 000
Cash and cash equivalents	340 000
Inventory	410 000
Bank loan	600 000
Taxes payable	104 000

PROBLEM 1.21

Matching cash flow statement items to categories

The following items were taken from a recent cash flow statement. Note that different companies use slightly different titles for the same item. Mark each item in the list as a cash flow from operating activities (O), investing activities (I) or financing activities (F).

1 Cash paid to employees
2 Cash borrowed from the bank
3 Cash proceeds received from sale of investment in another company
4 Income taxes paid
5 Repayment of loan principal
6 Cash received in return for issue of share capital
7 Cash received from customers
8 Purchases of property, plant and equipment
9 Cash paid to suppliers
10 Cash paid for dividends to shareholders
11 Repayment of loan interest

PROBLEM 1.22

Identify some accounting concepts and principles

Identify the accounting concepts or principles that relate to each of the following sentences and explain what effect the concepts or principles have on financial statements:

1 Users of financial statements should be able to believe that the numbers represent real events.

2 It is hard to say absolutely if a company is performing well or badly, but you can evaluate its relative performance.
3 Financial accounting should be helpful both in understanding the past and looking ahead to the future.

PROBLEM 1.23

Accounting assumptions

Consider the following statements relating to how we might account for certain transactions or events. What accounting assumption or principle underlies each?

1 'Accounting financial statements are primarily based on historical costs.'
2 'At the end of each period, a company has to calculate any salaries that have accrued, and recognise an expense and a liability for that amount.'
3 'If a company changes its depreciation policy, it needs to disclose (in the notes to the financial statements) the nature of the change, and its financial effects.'
4 'If a company issues new shares this is recorded in the company's books. However, a sale of the company's shares from one shareholder to another is not.'

PROBLEM 1.24

Qualitative characteristics

The *Framework for the Preparation and Presentation of Financial Statements* examines the characteristics of accounting information that make this information useful for decision-making. It also points out that various limitations, which are inherent in the measurement and reporting process, may necessitate trade-offs between these limitations and the positive characteristics of useful information.

1 Briefly describe the following characteristics of useful accounting information:
   a relevance
   b faithful representation
   c understandability
   d comparability
   e timeliness
   f verification.
2 For each of the following pairs of information characteristics, give an example of a situation in which one of the characteristics may be sacrificed in return for a gain in the other:
   a relevance and verification
   b faithful representation and timeliness
   c comparability and relevance
   d relevance and understandability.

PROBLEM 1.25

Identify some accounting concepts and principles

Identify the accounting concepts or principles that relate to each of the following sentences, and explain what effect the concepts or principles have on financial statements:

1 Users of financial statements should be able to believe that the numbers represent real events.
2 Financial statements should avoid undue optimism about the future.
3 It is hard to say absolutely if a company is performing well or badly, but you can evaluate its relative performance.
4 Financial accounting should be helpful both in understanding the past and looking ahead to the future.

CASES

CASE 1A Woolworths Limited

Refer to the extracts of the 2017 annual report of Woolworths Limited in the book's appendix. All questions relate to the consolidated accounts.

1 On what date does Woolworths' most recent reporting year end?
2 For how many years does it present complete:
   a balance sheets?
   b income statements?
   c cash flow statements?
3 Provide indicators that Woolworths uses accrual accounting.
4 What were total assets at 25 June 2017?
5 What were total liabilities at 25 June 2017?
6 What was shareholders' equity at 25 June 2017?
7 State the accounting equation in dollar figures at 25 June 2017.
8 What was the net profit before tax for 2017?
9 What was the net profit after tax for 2017?
10 What were the largest cash inflow and outflow relating to operating activities?
11 Give two reasons why the cash flow from operations is a different figure from operating profit after tax.
12 Did its total assets increase or decrease over the last year?
13 How much inventory (in dollars) did Woolworths have as at 25 June 2017?
14 Are its financial statements audited by an independent firm? Who is the auditor for the company?
15 What information would Woolworths' investors and lenders be most interested in?
16 Provide examples of the accounting principles of materiality and comparability from note 1 of the accounts.

CASE 1B Accrual and cash profit in measuring performance

Wings Ltd is an airline services company with a plant near Sydney Airport and service centres in several states. It provides meals, serviettes and other food-related items, cleaning, interior maintenance and several other services to various airlines. The company has been fairly successful, though recessions and the deregulation of air services have put significant pressure on its operations. When the company began in the late 1990s, it had a relatively weak financial position (mainly because of borrowing to get set up) and its financial performance, while satisfactory, has not enabled it to reduce its debt load very much. It seems that every time the company gets a little ahead, new equipment must be purchased or new product lines developed, and the company finds itself borrowing again.

A recent year provides a good example. The company's accrual profit was $188 000 and its cash profit was $241 000. (The difference resulted because of a depreciation expense of $96 000 and uncollected revenue being $43 000 higher at the end of the year than at the beginning. In the company's financial statements, the phrase 'net profit for the year' was used to describe the accrual profit and 'cash generated by operations' described the cash profit.) The CEO had looked forward to using some of the cash to pay debts, but late in the year the company had to buy new food-handling and wrapping equipment for $206 000 to meet revised standards announced by its airline customers. Therefore, the company ended up only a few thousand dollars ahead in cash, not enough to make much of a dent in its debts.

The CEO has a regular half-yearly meeting with the company's external auditor to discuss accounting and auditing issues. After the above results were known, the CEO phoned the auditor and made the following comments: 'I thought I'd ask you to think about a few things before our meeting next week. When it comes to our accounting, I think the company has too many masters and too many measures. What I mean is first that too many people are concerned with what our financial statements say. Why can't we just prepare financial statements that meet my needs as CEO? Why do we have to worry about all the other people outside the

company? Sometimes I'm not even sure who all those other people are, since you accountants and auditors often just talk about ''users'' without being too clear what you mean. Also, I'm confused by the existence of both a ''net profit'' figure and a ''cash generated by operations'' figure in our financial statements. Why can't we just have one or the other to measure our performance?'

The CEO raised issues that will be addressed frequently as this book develops your understanding. But for now, what would you say to the CEO?

CASE 1C Audit and ethics issues

Assume you were reading an article on the auditing profession in a professional accounting magazine that included terms such as independence and auditors' responsibilities. It also noted that there was a large standards expectation gap between auditors and users of financial statements.

1 What is meant by independent assurance?
2 Give some examples of lack of independence.
3 What does the 'Expectation Gap' refer to?
4 How do management's and auditors' responsibilities differ?
5 Why is the integrity of management important to the financial reporting process?

HOW'S YOUR UNDERSTANDING SOLUTIONS

1A Financial performance and financial position.

1B (i) Cash profit: $100 000 – $60 000 = $40 000

(ii) Accrual profit: $100 000 + $200 000 – $60 000 – $10 000 = $230 000

1C (i) A

(ii) L

(iii) Not listed in the balance sheet

(iv) SE

(v) A

(vi) L

1D (i) $60 000; $100 000 – L = $40 000

(ii) $500 000; A = $200 000 + $300 000

(iii) $40 000; $300 000 = $200 000 + $600 000 + RE

1E $100 000 + $60 000 – $40 000 = $120 000

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1

Account	Classification
Cash at bank	Asset
Inventory	Asset
Sales	Revenue
Wages	Expense
Cost of goods sold	Expense
Share capital	Equity
Accounts payable	Liability

2

Income statement For the year ending 30 June 2019	$
Sales	210 000
Cost of goods sold	(70 000)
Gross profit	140 000
Wages	(40 000)
Net profit	100 000

3

Balance sheet As at 30 June 2019	$		$
Assets		**Liabilities and shareholders' equity**	
Cash at bank	210 000	Accounts payable	30 000
Inventory	60 000	Share capital	140 000
		Retained profits	100 000*
	270 000		270 000

*Opening retained profit + profit-dividend = closing balance retained profit (0 + 100 000 – 0 = 100 000)

PRACTICE PROBLEM B

1 Accrual profit = total sales – total expenses
= $750 000 + 260 000 – 580 000 – 240 000
= $190 000

2 Sales revenue = 2000 × $8
= $16 000

Cost of goods sold = 2000 × $5
= $10 000

PRACTICE PROBLEM C

Shareholders' equity = Assets – Liabilities
= (Property, plant and equipment $1 500 000 + Accounts receivable $400 000 + Cash $100 000 + Inventory $500 000) – (Bank loan $250 000 + Wages payable $90 000)
= $2 500 000 – 340 000
= $2 160 000

COURSEMATE EXPRESS

WEBSITE RESOURCES

CourseMateExpress

Go to **http://login.cengagebrain.com** and use the access code that comes with this book for 12 months access to the resources and study tools for this chapter.

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> and more!

Measuring and evaluating financial position and financial performance

2

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 describe the contents of a balance sheet (2.1, 2.2)

LO2 determine what business activities result in changes in a balance sheet (2.2)

LO3 carry out preliminary analysis based on a balance sheet (2.3)

LO4 show how specific activities affect each item in the balance sheet (2.5)

LO5 prepare a balance sheet (2.5)

LO6 determine the effect of transactions on revenue and expenses (2.7)

LO7 prepare an income statement (2.7)

LO8 explain the nature of each of the items in the balance sheet and income statement for a public company (2.4 and 2.9)

LO9 describe the contents of the note reconciling opening and closing retained profits (2.8)

LO10 explain the importance of income statements and balance sheets to managers (2.6 and 2.10).

CHAPTER OVERVIEW

Chapter 1 introduced accrual accounting, the key financial statements and the users and preparers of these statements. Now we turn to three chapters that set out financial accounting's results and outline the record-keeping system that leads to those results. This chapter focuses on the content and use of the statements measuring financial position at a particular date (a balance sheet) and measuring financial performance (an income statement) over a period. Chapters 3 and 4 consider how the double-entry system produces accounts and how these accounts are assembled together to form financial statements.

The balance sheet is financial accounting's oldest and most basic report. It measures the organisation's financial position at a particular date and is the basis for much financial analysis. In fact, many companies use the term 'Statement of Financial Position' instead of 'Balance Sheet'. Figure 2.1 outlines what you will learn in the next three chapters:

- *procedures and techniques:* how the double-entry accounting system produces accounts, and how to assemble a balance sheet and an income statement from those accounts
- *concepts and principles:* why the balance sheet and income statement are important and why they are arranged as they are

- *analysis and decisions:* using the financial statements to understand how an organisation is put together financially and how it does its business, and using it to do some analysis of the organisation's financial health and performance.

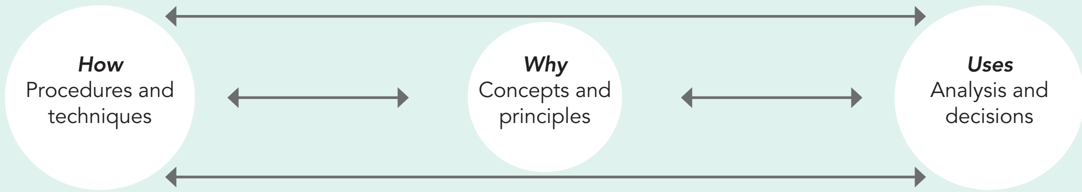

FIGURE 2.1 The how, why and uses of accounting

The balance sheet summarises, at a particular date, the organisation's financial position as accounting measures it, in three categories of lists:

- *resources* (such as cash, inventory, land and buildings), called assets
- *obligations* (such as loans owing and debts to suppliers), called liabilities
- *owners' interests* (what's left after subtracting the obligations from the resources), called equity.

The individual items in each of these lists are called accounts, so over the centuries the task of preparing them has been named accounting, and the people who do it are accountants. All these words are derived from 'count', which is where accounting began: just counting things and listing them. Recall from Chapter 1 that:

Assets = Liabilities + Shareholders' equity

The balance sheet portrays the organisation by arranging its lists of accounts so that the assets sum to the same total as the other two lists, and setting them beside (or below) each other, something like this:

Assets		Liabilities and equity	
Item a	$$	Item x	$$
Item b	$$	Item y	$$
Etc.	$$	Etc.	$$
Total	T$$	Total	T$$

Because the left total equals the right total, accountants say that they balance – hence the name balance sheet. The underlying accounting system maintains this balance by making sure that any changes in one side of the balance sheet are matched by changes in the other side (e.g. assets increase and liabilities increase from buying an asset and owing the supplier) or by opposite changes on the same side of the equation (e.g. buy inventory for cash where an asset 'inventory' increases and another asset 'cash' decreases). This requires that each change be recorded twice, so the accounting system is called double-entry. The balance sheet turns out to be the accumulation of everything financial accounting has recorded about the organisation since the day the organisation began, so it is the fundamental cumulative accounting record.

The balance sheet provides important information about the organisation's financial structure and strength, but its description of the organisation's financial position is not the only story to be told. Its picture is static: it tells us what the position is at a point in time. Most managers, owners and creditors also want to know how well the organisation is performing and how it got to where it is. To provide that explanation, we need to measure financial performance. This is provided by an income statement (often called a profit and loss statement internally within organisations).

Corporations – which are legally incorporated companies such as Qantas, Commonwealth Bank, Telstra, BHP Billiton, Woolworths and thousands of local, national and international businesses – produce financial statements at least annually. So do many other kinds of organisations, such as the City of Brisbane, the Salvation Army, the Government of Australia and your university's student union. We mainly focus on businesses, especially corporations, but other kinds of organisations are considered where appropriate.

For large corporations, especially public companies whose shares are traded on stock markets, the financial statements are included in a larger document called an annual report. An annual report typically begins with narrative material on the corporation's performance and prospects, moves on to an extensive discussion and analysis by management, then turns to the financial statements: the balance sheet, the income statement and the statement of cash flows. The first two are discussed in this chapter, and the statement of cash flows is discussed in Chapter 14.

2.1 Introduction to the balance sheet

LO1 The balance sheet is only one of the set of financial statements, each of which is important for particular uses. However, as the summary of the double-entry system, the balance sheet is a critical part of financial accounting. It balances, containing two lists that have the same dollar total and together describe the organisation's financial position at a particular date.

The first list is the organisation's financial resources at that date, as measured by the financial accounting methods you will learn. These resources, called assets, include the organisation's cash, accounts receivable (money customers have promised to pay), inventory (goods for sale), land, buildings, equipment and many other resources that the organisation has accumulated and can use in the future.

The second list is the sources, or financing, of those resources at that date.

- These financing sources include existing obligations that will have to be paid in the future, such as loans from the bank, amounts due to be paid to employees and suppliers (wages payable and accounts payable respectively), long-term borrowings, and many other debts. Some estimates of future payments are also included, although they may not be legally owed just yet, such as promises to pay employee holiday leave and estimated future warranty costs based on the expected warranty expenses related to sales already made. All these legal obligations and estimates together are called liabilities.
- The list of sources also includes amounts received from owners, which normally involve permanent financing and do not have to be repaid (often called 'capital'), plus any past profits that have not been paid out to the owners in the form of dividends. Owners can finance an organisation by contributing money to the organisation, or by not taking profit out of the organisation, as we will see. The owners' investment is called owners' equity, or just equity. (For corporations, which are owned by shareholders, the term is usually shareholders' equity.)

Because the balance sheet balances, the total amount of assets must equal the total of liabilities plus equity. Arithmetically, the accounting equation (often called the balance sheet equation) therefore is:

Sum of assets = Sum of liabilities + Sum of equity

This gives us the accounting equation:

Assets = Liabilities + Shareholders' equity

This equation is fundamental to financial accounting. Accounting procedures are designed to create and maintain this equality at all times. For example, if you obtain $100 by borrowing from the bank, your balance sheet would list the $100 cash you received as a resource and the $100 obligation to repay as a liability. By maintaining this equality, financial accounting ensures that all the financing sources that go with the resources are identified, and vice versa. This balanced pair of lists is one of the main reasons for financial accounting's value as an information system.

The two lists are put side by side, or the first above the second, as in the standard style shown in Figure 2.2.

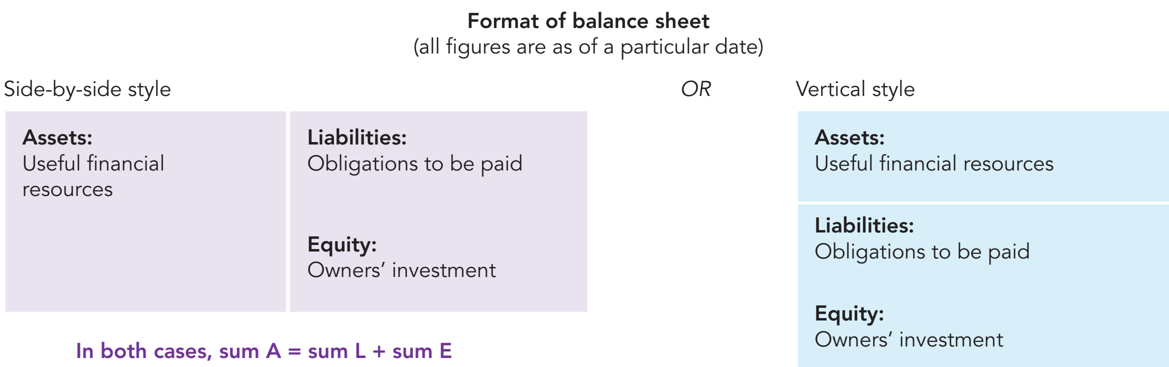

FIGURE 2.2 Balance sheet

Exhibit 2.1 is a simple example of a balance sheet using the side-by-side style to emphasise the equality of the two lists, with assets on the left and liabilities and equity on the right. Explanations of the terms used in the balance sheet follow the example.

EXHIBIT 2.1

SOUND AND LIGHT LTD

BALANCE SHEET AS AT 30 JUNE 2019

	$000	$000		$000	$000
Assets			**Liabilities and equity**		
Current assets			**Current liabilities**		
Cash	50		Accounts payable	73	
Accounts receivable	75		Wages payable	30	103
Inventory	120	245			
Noncurrent assets			***Noncurrent liabilities***		
Land	100		Loan		87
Equipment (net)*	150	250	**Total liabilities**		190
			Shareholders' equity		
			Share capital	130	
			Retained profits	175	305
Total		495	**Total**		495

* Equipment (net) = Cost − Accumulated depreciation = $272 000 − $122 000 = $150 000

Let's review some features of this balance sheet:

- The title identifies the organisation (Sound and Light Ltd), the point in time at which it is drawn up (30 June 2019) and the currency in which amounts are measured (thousands of dollars).
- The balance sheet balances! As at 30 June 2019, total assets of $495 000 are exactly equalled by the total sources of these assets (i.e. liabilities and shareholders' equity). It is a summary, so we cannot tell exactly which source produced which asset or assets; for example, the $50 000 of cash came partly from bank borrowing and partly from other sources, such as past profits. (More about sources shortly.)
- Assets are usually separated into shorter-term ones (current assets) and longer-term ones (noncurrent assets). (More about these categories below.)
- Like assets, liabilities are usually separated into shorter-term ones (current liabilities) and longer-term ones (noncurrent liabilities).
- The balance sheet shows several individual accounts, telling us about the company's particular financial structure. For example, the company expects to receive $75 000 from customers (accounts receivable) and owes $73 000 to its suppliers (accounts payable). The company owes $30 000 to the bank but has chosen not to pay it all back, keeping more than that ($50 000) on hand as cash. (These accounts are usually aggregates of many smaller accounts; for example, there is an account for each customer who owes money to Sound and Light.)
- The $495 000 of assets have been financed by $190 000 ($103 000 + $87 000) of liabilities and $305 000 of owners' equity.
- Note: the accounting equation always balances:

Assets = Liabilities + Equity

HOW'S YOUR UNDERSTANDING?

2A Which of the following items would be classified an asset in the balance sheet:
- Cash at bank
- Accounts receivable
- Accounts payable
- Buildings
- Retained profits?

2.2 Explanations of the three balance sheet categories: assets, liabilities and equity

LO1 LO2 Recall from the previous section that Assets = Liabilities plus Equity. More detailed explanations of each of these elements are discussed below.

Assets

Assets are a mixture of the resources that the company needs to do business – for instance, products to sell (inventory) and a building to operate from – and the resources that it has accumulated as a result of doing business, including amounts due from customers for past sales (accounts receivable). You can think of assets as economic resources that have probable future benefits that are controlled by the entity.

More formally, assets are resources controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity. Based on this definition, assets need to have three essential characteristics:

- *Future economic benefits* because the assets are used to provide goods and services for exchange, with the objective of generating net cash flows (e.g. through the sale of the asset or the sale of the output produced through the use of the asset). Consider the following examples of assets and how they provide future economic benefits. Cash balances are beneficial because of their command over the future economic benefits they provide. Assets such as accounts receivable are direct claims to cash inflows (receipt of payment from accounts receivable); prepayments (e.g. prepaid rent) provide rights to receive services in the future; inventories can be exchanged for cash; and equipment can provide goods or services for sale.
- *Control by the entity* relates to the capacity of an entity to benefit from the asset in pursuing its objectives and to deny or regulate the access of others. For example, if a company owns a truck it can prevent others from using it. Some future economic benefits will not be controlled by an entity, because the entity cannot deny others access to the benefits of the asset; for example, a property developer who builds home units and is required by the local council to put in a public park as part of the project. If the park is open to the general public without charge, then the developer does not have control over the asset and the public park would not be included as an asset for the property developer.
- *Occurrence of past transactions or other past events* means that the transaction or other event giving the entity control over the future economic benefits must have occurred. Most assets are obtained by an entity by using cash, credit (promise to pay in the future) or barter transactions.

Sound and Light's assets include cash, accounts receivable, inventory, land and equipment. Other 'assets' of Sound and Light might include happy employees and a safe working environment – yet these do not directly appear on its balance sheet. There is a distinction between the assets that accounting recognises and these other 'assets'. There are objective, standard measures for the economic control of the first group and for demonstrating the probability of future benefits that will eventuate for the first group, but not for the second group. For example, in the first group, an inventory of machine parts is owned by the organisation and has a dollar cost that can be easily verified. The benefit will come from future use or selling the

inventory. In the second group, a happy employee is, in theory, more productive than an unhappy employee, but it is difficult to measure reliably (with any consistency) how much more productive a very happy employee is compared with an employee who is only mildly happy.

Moreover, at least in our society, an organisation does not own its employees! Accounting generally records assets only where there is economic control; that is, where the value of the asset can be reliably measured and it is probable the future benefits will eventuate. The expenditure for market research will not qualify as an asset because it is not possible, at the date of expenditure, to establish that it is probable that the future benefits will eventuate. This places limits on the scope of the financial statements.

In summary, an asset is only recognised in the balance sheet when (a) it is probable that future economic benefits will eventuate, and (b) the asset possesses a cost or other value that can be reliably measured. We will discuss these complications in more detail in Chapter 6.

Assets are usually separated into shorter-term ones (current assets) and longer-term ones (noncurrent assets). Current assets are those that are expected to be used, sold or collected within the next year. Noncurrent assets, therefore, are expected to have benefits for more than a year into the future. Sound and Light has $245 000 in current assets and $250 000 in noncurrent assets.

HOW'S YOUR UNDERSTANDING?

2B Which of the following would *not* be included as assets in the balance sheet: accounts receivable, equipment, share capital, inventory and employees?

Liabilities

Liabilities are probable debts or obligations that result from an entity's past transactions (e.g. someone providing them with a service) and will be paid for with assets (e.g. cash) or services (e.g. providing a service to someone who has already paid for that service in advance). More formally, liabilities are present obligations of the entity arising from past events, the settlements of which are expected to result in an outflow from the entity of resources embodying economic benefits.

There are two essential characteristics of liabilities. First, a present obligation exists and the obligation involves settlement in the future via the sacrifice of future economic benefits. Most obligations are legally enforceable; for example, they arise out of contractual arrangements, including money borrowed, amounts owing on assets purchased or for services provided, or obligations to provide services to parties who have paid in advance. Obligations can also be imposed on the entity, including damages awarded by courts, workers' compensation claims and income tax payable. Obligations can also arise from normal business practice, custom and a desire to maintain good business relations or act in an equitable manner. If, for example, an entity decides as a matter of policy to rectify faults in its products even when these become apparent after the warranty period has expired, the warranty amounts that are expected to be expended in respect of goods already sold are liabilities.

The other essential characteristic of a liability is that it has adverse financial consequences for the entity, in that the entity is obliged to sacrifice economic benefits to one or more entities. Thus, the existence of a liability depends on the present obligation being such that the legal, social, political or economic consequences of failing to honour the obligation leave the entity little, if any, discretion to avoid the future sacrifice of economic benefits to another entity.

Liabilities include amounts owed to creditors, such as banks and suppliers, or amounts estimated to be due later, such as holiday and long service leave payments to employees, estimated future income taxes or interest building up on a bank loan. For example, if an electrician has done repair work on a company building, the electrician will be owed money (accounts payable). The electrician has done the work (past transaction) and the company has a present obligation to pay.

Not all liabilities are expected to be paid in cash; some are 'paid' by providing goods or services. An example is a deposit received from a customer for goods to be shipped later. The organisation has the

money (an asset) and records a corresponding liability for the deposit, but expects to give the customer the agreed-upon goods to discharge the liability. In the meantime, the customer has a claim on the organisation, expecting to get either the goods or the cash back if the goods are not supplied. Sound and Light's liabilities (Exhibit 2.1) include amounts owing to suppliers (accounts payable) and amounts owing to employees for work done (wages payable) and a long-term loan.

Following the same rule as for assets, liabilities generally include only obligations that can be reliably measured. If you are in debt to a friend for $10, that would appear on your balance sheet. However, if you are 'in debt' to a friend for saving your life, that would not appear on your balance sheet. The requirement that the obligation has arisen from a past transaction means that a promise to pay is a liability if the organisation has already received the benefit; for example, if it has received cash from the bank or goods from a supplier or hard work from an employee expecting a pension.

An expectation to pay later is not a liability if the transaction bringing the benefit has not happened. For example, an agreement to borrow before the cash has been received is not a liability, nor is an order to purchase something before the goods have arrived. Because some of these expected or possible future events may result in future payments, even if they do not meet the definition of a liability and so do not appear in the balance sheet, they are sometimes described in the notes to the financial statements so that the users of the financial statement are aware of them.

Like assets, liabilities are usually separated into shorter-term ones (current liabilities) and longer-term ones (noncurrent liabilities). Current liabilities are those that are due (expected to be paid or otherwise discharged) within the next year. Noncurrent liabilities, therefore, are due more than a year into the future. Some liabilities, such as many house mortgages, extend for years into the future, but are partly paid each year, so the balance sheet would show both a current and a noncurrent portion for them. Sound and Light has $103 000 in current liabilities and $87 000 in noncurrent liabilities.

HOW'S YOUR UNDERSTANDING?

2C Consider the following questions:

(i) Which of the following are liabilities: accounts receivable, inventory, accounts payable, wages payable and taxes payable?

(ii) Would an agreement to borrow money from the bank in three months' time appear in the balance sheet?

(iii) A company places an order to buy 10 TVs at $600 each on 1 April and receives them on 1 May. When would the liability of $6000 be recorded?

Equity

Equity is the owners' interest in the organisation.

- Equity can be derived from direct contributions the owners have made, or from the accumulation of profits that the owners have chosen not to withdraw. For a company, this would mean profits that have not been distributed as dividends.
- The details of the owners' equity section of the balance sheet depend on the legal structure of the organisation and its ownership arrangements (examined later in this chapter).
- The balance sheet does not distinguish between assets whose sources are liabilities and assets provided by owners. Complex financial events make this impractical, so the assets represent a pool of resources provided by all sources.
- The owners' interest can also be considered as a 'residual' of the sum of the assets minus the obligations the organisation has taken on. (If A = L + E, the equation can also be written A – L = E.)

Because the balance of the shareholders' equity figure equals assets minus liabilities, this residual or net concept of equity is often referred to as the book value of the whole organisation. Book value is an arithmetically

valid idea, as the above equation shows. But it may not tell us very much. For example, if Sound and Light suddenly went out of business, the owners would be unlikely to receive exactly the equity of $305 000 (Exhibit 2.1), because nobody knows what the assets would fetch if they had to be sold off all at once, and the liabilities perhaps would be settled for something other than the expected future payments used to record them.

Similarly, if the owners decided to sell the business, the price they would get would depend on their and the buyers' views as to the future success of the business, not just on the accumulated assets and liabilities recorded in the balance sheet. Thus, the amount would be very unlikely to equal the balance sheet equity figure.

Shareholders' equity is generally based on historical transactions, and does not, except by coincidence, equal the current market value of the whole business. Many high-technology and internet companies at the start of this century had small equity amounts in their balance sheets but huge stock market values (market capitalisation, or the share price times the number of shares outstanding). The stock market may have been considering all sorts of 'assets' not included by accounting, such as competitive strength or smart employees, and/or expecting good future performance. Many of these share prices have subsequently dropped, but there often are differences between the dollar values in the shareholders' equity section of the balance sheet and the current market price of the company.

Contributions from owners can come in many forms, including the issue of share capital and the obtaining of past profits (discussed below). For a corporation like Sound and Light, the most usual is share capital: people give the corporation money in exchange for shares, which are portions of ownership interest. Sound and Light owners (shareholders) have contributed $130 000 to the corporation (Exhibit 2.1). For example, some owners probably contributed cash to get Sound and Light started, so they would be among the sources of the cash asset. Many corporations' shares, also called stocks in some countries (such as the United States), are traded on sharemarkets (e.g. the Australian Securities Exchange). In such markets, shares are traded between owners; the corporations issuing the shares receive money only when the shares are issued by them to the first owners. Therefore, trades subsequent to the initial share issue are not reflected in the corporation's share capital; these trades are transactions for the owners, not for the corporation.

Past profit retained, usually called retained profits (or retained earnings), represents past accrual profit not yet given to owners. (The terms 'earnings' and 'profit' are used pretty much interchangeably, but they all refer to accrual profit, as described in Chapter 1.) Sound and Light has $175 000 in retained profits (Exhibit 2.1), which means it has $175 000 more in assets than it would have had if those profits had all been paid out. The owners could have withdrawn cash or other assets from the company (for instance, by declaring themselves a dividend, which is a payment of some of the retained profits to the owners), but they have chosen instead to leave the assets in the corporation. Thus, those assets are resources of the corporation and retained profits are their source. The corporation can use the assets to earn more profit in the future.

Since E = A – L, it is arithmetically possible for equity to be negative. If the assets are less than the liabilities, which would indicate an organisation has more obligations than resources (not a good position to be in!), the equity, and therefore the organisation's book value, will be negative. Such a situation is a sign of serious financial problems and is likely to be followed by insolvency.

HOW'S YOUR UNDERSTANDING?

2D If assets are resources, what are the possible sources for these assets?

2.3 Some preliminary analysis of the Sound and Light balance sheet

From the Sound and Light balance sheet (Exhibit 2.1), we can answer some questions about the corporation's financial condition: LO3

1 Is the organisation soundly financed? Sound and Light has financed its $495 000 in assets by borrowing $103 000 short-term and $87 000 long-term, and by getting $130 000 in contributions from owners and not

paying past earnings of $175 000 out to owners. Its $495 000 in assets are therefore financed by $190 000 (38.4 per cent) from creditors and $305 000 (61.6 per cent) from the owners. Its debt-to-equity ratio is $190/$305 = 62.3 per cent (often written 0.62:1). So, Sound and Light is not much in debt, proportionately. What would you think if the creditors were owed $450 000 and the shareholders' equity was only $45 000? This would be a debt-to-equity ratio of $450/$45 = 1000 per cent (10:1), much more risky for the creditors because a lot more of their money than the owners' money would be at risk if the company ran into trouble.

Debt to equity ratio = Total liabilities ÷ Total shareholders' equity

2 Can the organisation pay its bills on time? Sound and Light owes $103 000 in the short term and has only $50 000 in cash. Therefore, to pay its bills it will have to collect cash from its customers, either by getting them to pay what they already owe or by selling them some inventory for cash. There is likely no problem here: collections and sales, and payments to creditors, are probably going on continuously. The company has $245 000 of current assets that it should be able to turn into cash to pay the $103 000 of current liabilities. It is said to have $245 000 – $103 000 = $142 000 in working capital and a current ratio of $245/$103, or 2.38. The working capital is positive, and the ratio indicates there is more than twice as much current assets as current liabilities, so Sound and Light appears to be fine.

Current ratio = Current assets ÷ Current liabilities

3 You can see that if the company had a slow period of sales or collections, it could have difficulty paying its bills. But if you were concerned about the company's ability to sell inventory to pay its bills, you could calculate the quick ratio (also called the acid test ratio). It is like the working capital ratio, but has only cash, very short-term investments that could be sold, and accounts receivable in its numerator. For Sound and Light, the quick ratio would be ($50 000 + $75 000)/$103 000 = 1.21. The company could pay its current liabilities without having to sell inventory. What would you think if the company had only $10 000 in cash and $160 000 in inventory instead of cash of $50 000 and inventory of $120 000? In that case, though its working capital and working capital ratio would be the same, it would likely be overstocked (i.e. too much inventory) and short of cash, and might have trouble paying bills. Now the quick ratio would be ($10 000 + $75 000)/$103 000 = 0.83. The company would have to sell some inventory to meet its current liabilities. All ratios are only indicators. They require interpretation of the specific circumstances of each organisation, so we don't know from our calculations if the company is in trouble, but a low quick ratio would give a signal to look further into the situation.

Quick ratio = (Current assets – Inventory) ÷ Current liabilities

4 Should the owners declare themselves a dividend? If so, how large should it be? Legally, the board of directors (who manage the company on behalf of the shareholders) are able to declare a dividend to shareholders of $175 000, the full amount of the retained earnings. But there is not nearly enough cash for that. Those past earnings have been reinvested in inventory, land, equipment and so on, and are therefore not sitting around in cash waiting to be paid to owners. This is true of nearly all companies: they invest past earnings in operating assets, so do not have a lot of cash on hand. Probably a dividend of more than about $25 000, only one-seventh of the retained earnings, would cause Sound and Light some cash strain. What would you think if the company had no land or equipment but $300 000 in cash instead? It would appear to be cash-rich in that case, and should either invest the cash productively or pay a dividend to the owners so they can do what they like with the money.

5 Equipment (net) of $150 000 is represented by the cost of the equipment $272 000 less accumulated depreciation of $122 000. In calculating its profit, Sound and Light has deducted depreciation on its equipment as an expense each year. The profit that is in the retained profits part of the equity is, therefore, smaller than it would have been without this deduction. The accumulated amount of that expense, built up over the years, is deducted from the assets in the balance sheet to show how much of the economic value of the assets is estimated to have been used up so far. Accumulated depreciation is therefore a 'negative asset' used to reduce the amounts of other assets. In this case, the equipment

cost $272 000, against which depreciation of $122 000 has accumulated, so the 'net' book value of the equipment is the remainder: $150 000. (It is normal for the balance sheet to report only the net amount and give cost and accumulated depreciation amounts in the notes.) Comparing the cost and the accumulated depreciation tells us something about the age of the equipment. The $122 000 accumulated depreciation is less than half the equipment's cost, so the company estimates that less than half the economic value of the equipment has been used. What would you think if the accumulated depreciation were $250 000? The equipment would be nearing the end of its estimated life.

Common presentation styles for balance sheets

So you see that the balance sheet provides interesting information if you know how to read it. Your skill in reading it will grow as you work with it. There are different styles of presentation for the balance sheet; all show the same information, but they are arranged differently. Exhibit 2.1 showed you the side-by-side format for Sound and Light Ltd. In Exhibit 2.2, the vertical format is shown, which has become far more common. It shows assets less liabilities equals shareholders' equity.

EXHIBIT 2.2

SOUND AND LIGHT LTD

BALANCE SHEET AS AT 30 JUNE 2019

	$000
Current assets	
Cash	50
Accounts receivable	75
Inventory	120
Total current assets	245
Noncurrent assets	
Land	100
Equipment (net)	150
Total noncurrent assets	250
Total assets	495
Current liabilities	
Accounts payable	73
Short-term loan	30
Total current liabilities	103
Noncurrent liabilities	
Loan	87
Total noncurrent liabilities	87
Total liabilities	190
Net assets	305
Shareholders' equity	
Share capital	130
Retained profits	175
Total equity	305

2.4 A closer look at the balance sheet

LO8 To gain further insights into the content of a balance sheet, we will examine the content of Chez Ltd's balance sheet, shown in Exhibit 2.3.

EXHIBIT 2.3

CHEZ LTD

BALANCE SHEET AS AT 31 MAY

	2019 $000	2018 $000
Current assets		
Cash and cash equivalents	8 952	6 336
Investments	18 516	5 179
Accounts receivable	26 396	18 069
Inventory	22 831	20 427
Prepayments	3 586	2 015
Total current assets	80 281	52 026
Noncurrent assets		
Land	23 205	23 205
Buildings (net)	26 282	25 911
Equipment (net)	35 120	36 630
Furniture (net)	4 864	4 140
Intangibles (net)	2 398	3 586
Total noncurrent assets	91 869	93 472
Total assets	172 150	145 498
Current liabilities		
Accounts payable	7 984	6 443
Accrued expenses	5 740	3 491
Income taxes payable	3 248	2 756
Provision for employee entitlements	10 823	4 481
Total current liabilities	27 795	17 171
Noncurrent liabilities		
Long-term loans	23 856	21 805
Provision for employee entitlements	14 006	13 647
Total noncurrent liabilities	37 862	35 452
Total liabilities	65 657	52 623
Net assets	106 493	92 875
Shareholders' equity		
Share capital	23 961	23 961
Retained profits	82 532	68 914
Total shareholders' equity	106 493	92 875

- It is comparative: it contains figures both for the most recent year and for the preceding year to help the users recognise changes. It is standard practice for the more recent figures to be to the left, closer to the words describing those figures.

- For clarity, the figures are shown in thousands of dollars (and for bigger companies it will be 'millions of dollars'), not exact amounts to the cent.
- References are normally made to various notes. It is not possible to explain every important item on the face of the balance sheet, so extensive explanatory notes are referred to and appended to most balance sheets. Chez's notes are not provided here because they raise issues we have not yet covered. Remember to look for notes when you are using financial statements.
- The company has many different kinds of asset, liability and equity accounts. They are not necessarily easy to classify into the categories you saw in the Sound and Light Ltd example. You probably won't understand all the accounts and how the company has categorised them; that understanding will develop as you work through the book.
- The balance date is 31 May, not 30 June. The end of the taxation year, 30 June, is the most popular accounting year-end (financial year-end), but many companies choose other dates, particularly subsidiaries of US companies, among whom 31 December is popular.

HOW'S YOUR UNDERSTANDING?

2E Given the following information for Northern Ltd:

- share capital $1000
- accounts receivable $1100
- accounts payable $2100
- inventory $1700
- retained profits $2200
- cash $500
- equipment $2000

  (i) Calculate the totals for current assets, noncurrent assets, total assets, current liabilities, noncurrent liabilities and shareholders' equity.

  (ii) Comment on the company's financial position at that point in time.

Some explanation of the detailed content of balance sheets will be helpful now, before some examples of preparing balance sheets are given.

Some of Chez's assets were described in Chapter 1: cash, accounts receivable and inventory. Property, plant and equipment is split into land, buildings, equipment and furniture. Many Australian companies show property, plant and equipment as one item on the face of the balance sheet (e.g. property, plant and equipment net = $100 000), with the split-up in one of the notes to the accounts (e.g. property, plant and equipment – accumulated depreciation: $400 000 – $300 000 = $100 000).

Note that land is not depreciated, but buildings, equipment, and furniture are shown net, meaning that accumulated depreciation has been deducted. The exact amount of the accumulated depreciation deducted will be shown in the notes. For example, if equipment cost $1 million and had an expected life of five years, the amount of depreciation each year would be $200 000. After three years, accumulated depreciation would be $600 000 ($200 000 + $200 000 + $200 000).

Chez Ltd also has some other assets that were not introduced in Chapter 1, including investments, prepayments, property, plant and equipment (net), and intangibles.

- Investments are short-term; that is, included under current assets – and could be shares in other companies (such as the Commonwealth Bank or Woolworths), which Chez intends to convert to cash within a year.

- Prepayments (or prepaid expenses) are amounts that have been paid in advance but for which the benefits have not yet been received. For example, if we pay a 12-month insurance premium on 1 April 2018, at 31 May 2018 we will have a prepayment equal to 10/12ths of the amount paid at year end. Prepayments are assets because they represent future economic benefits.
- The property, plant and equipment (PPE) will be recorded at cost net of accumulated depreciation. Each year depreciation expense is calculated and the sum of these depreciation expenses is called accumulated depreciation. Depreciation expense and accumulated depreciation are discussed in more detail in Chapter 5. When you see the word 'net' after PPE it means accumulated depreciation has been deducted from cost.
- Intangible assets are noncurrent assets that have no physical substance, such as copyrights, patents, trademarks, brand names and goodwill. They are discussed in Chapter 10.

Chez Ltd includes many liabilities that have not yet been discussed. Accounts payable and long-term loans were described in Chapter 1. Two others are accrued expenses and provision for employee entitlements.

- Accrued expenses relate to expenses that have been incurred during the year but not yet paid. Consider two examples. Assume Chez Ltd pays salaries and wages every two weeks for work done in the previous two weeks. If the last pay day was 19 May, the company would owe employees salaries and wages from 20 May to 31 May. This is called accrued wages or wages payable. Another example of accrued expenses could be the amount owing to the electricity company. If it bills you quarterly and the last bill was for the period ending 30 April, you would owe the company for one month's electricity at the end of the accounting period. This would also form part of accrued expenses. Income taxes payable is the amount payable to the tax office in the next year.
- Provision for employee entitlements relates to long service leave, holiday pay and some superannuation. It is an estimate, based on years of employee service, of the amounts owing to employees that will have to be paid in future periods. The provision for employee entitlements has both current and noncurrent proportions, depending on when the amounts are likely to be paid.

Note that for accounts payable the company will have received an invoice showing the amount owing. Accruals need to be estimated but often this can be done reasonably accurately. However, when the estimation process is more difficult, the term 'provisions' is common.

Where do the figures come from?

A full understanding of what assets and liabilities are and how to measure them will take time and many examples. One thing you may be wondering about is where the figures used to measure these things come from. This is a deep and controversial question indeed. Only a superficial answer can be given now, but after a few more chapters you will have a deeper understanding of it.

Accounting is generally a historical measurement system: it records what has happened, not what will happen or would have happened if conditions had been different. Therefore, asset and liability values are derived from the past. Assets are generally valued at *what they cost when they were acquired*, and liabilities are generally valued at *what was promised when the obligation arose*. In most countries, assets and liabilities are not valued at the current prices they might fetch if sold right now. This is something that confuses many users: looking at a balance sheet, for example, a user might think that assets such as land and buildings are shown at what those assets would be worth right now if they were sold. They are, instead, generally valued at what they cost when they were acquired.

The differences in these values can be large. For example, a company may have bought land in Sydney 20 years ago for $300 000. The land may now be worth many millions of dollars. But the balance sheet normally will show the land asset at a figure of $300 000, its original cost. This is because the only thing that has happened is that the land was acquired 20 years ago, and the cost incurred then can be verified. Nothing further has happened: the land has not been sold, so its current value is hypothetical and difficult to verify. However, in Australia certain assets can be revalued in the balance sheet to current market prices. They are

shown at either independent valuation or directors' valuation. This important valuation issue is discussed in more detail in Chapter 10. Also, around the world there is a trend towards valuing many assets, including investments, at their 'fair values' rather than historical cost. This will be discussed in Chapter 10.

The balance sheets of most Australian companies actually show a little less detail than our Chez Ltd example. For example, under liabilities it is quite normal to have a heading 'payables', which includes accounts payable and accrued expenses. The split-up of these amounts is then given in the notes to the accounts. Also as noted earlier, Land, Buildings, Equipment and Furniture are likely to be included under one heading 'Property, Plant and Equipment'.

HOW'S YOUR UNDERSTANDING?

2F Account balances for Mike's Tyre Repair (company) are: long-term loan, \$250; accounts receivable, \$640; inventory of supplies, \$210; equipment cost, \$890; accumulated depreciation on equipment, \$470; accounts payable, \$360; share capital, \$660. Calculate total assets, total liabilities and shareholders' equity.

2.5 Maintaining the accounting equation

LO5

In sections 2.1 and 2.2 the accounting equation was introduced:

Assets = Liabilities + Shareholders' equity

An understanding of this equation is fundamental to your understanding of the balance sheet and the whole accounting recording process. Financial accounting is said to use the double-entry system, whereby the accounting equation is always kept in balance. If an asset goes up, a liability or equity must go up too (or another asset must go down). If a liability goes up, an asset must go up too, or an equity or another liability must go down. Here are some examples, using the balance sheet descriptions in the Sound and Light example in section 2.1 and the equation $A_1 = L_1 + E_1$ to represent the balance sheet before the events:

- cash of \$100 obtained from an owner for shares: 'cash' asset up, 'share capital issued' equity up, so $A_1 + \$100 = L_1 + E_1 + \$100$
- \$120 collected from a customer: 'cash' asset up, 'accounts receivable' asset down, so $A_1 + \$100 + \$120 - \$120 = L_1 + E_1 + \$100$
- goods for sale costing \$130 received from a supplier: 'inventory' asset up, 'accounts payable' liability up, so $A_1 + \$100 + \$120 - \$120 + \$130 = L_1 + \$130 + E_1 + \$100$.

After these three events, the new balance sheet is \$230 higher on both sides and so still in balance:

$$A_1 + \$230(\text{net}) = L_1 + \$130 + E_1 + \$100$$

The key point is that the equation will always be in balance. The equation would balance before recording these transactions and will balance after the transactions have been recorded.

We cover transaction analysis in more detail in Chapter 3, including expanding the equation to incorporate revenue and expenses. So at this point we will just consider transactions that only have an impact on the balance sheet.

Assume that, at 30 June 2019, FGH Ltd had cash of \$200 000 and share capital of \$200 000. Note that the accounting equation balances at this point. In fact, the equation will balance after we record every transaction. Consider the impact of each of the following transactions:

1. The company receives \$400 000 from the issue of shares (200 000 shares at \$2 each). This transaction increases an asset (cash at bank) and increases shareholders' equity account (share capital).
2. The company purchases new equipment for \$500 000, paying cash to the supplier. This transaction increases one asset (equipment) and decreases another asset (cash).

3 The company borrows $200 000 from the bank. This transaction increases an asset (cash at bank) and increases a liability (loan).

4 The company purchases inventory on credit for $150 000. This transaction increases a liability (accounts payable) and increases an asset (inventory).

5 The company pays $50 000 to accounts payable. This transaction decreases an asset (cash) and a liability (accounts payable).

Each of the above transactions is recorded in Exhibit 2.4 and the new balance sheet at 31 July 2019 appears in Exhibit 2.5.

EXHIBIT 2.4

FGH LTD

ACCOUNTING EQUATION

		Assets		=	Liabilities + Shareholders' equity		
	Cash	Inventory	Equipment		Accounts payable	Long-term loan	Share capital
Bal.	+200 000						+200 000
1	+400 000						+400 000
2	−500 000		+500 000				
3	+200 000					+200 000	
4		+150 000			+150 000		
5	−50 000				−50 000		
	+250 000	+150 000	+500 000		+100 000	+200 000	+600 000
			900 000	=	900 000		

EXHIBIT 2.5

FGH LTD

BALANCE SHEET AS AT 31 JULY 2019

	$		$
Assets		**Liabilities**	
Current assets		**Current liabilities**	
Cash	250 000	Accounts payable	100 000
Inventory	150 000		
	400 000	**Noncurrent liabilities**	
		Long-term loans	200 000
Noncurrent assets		**Total liabilities**	300 000
Equipment at cost	500 000	**Shareholders' equity**	
		Share capital	600 000
		Retained profits	0
		Total shareholders' equity	600 000
Total assets	900 000	**Total liabilities and shareholders' equity**	900 000

HOW'S YOUR UNDERSTANDING?

2G (i) What is the effect of each of the following transactions on total assets?
- (a) Purchased equipment for $200 000 cash.
- (b) Purchased inventory for $30 000 on credit.
- (c) Received a loan of $50 000 from the bank.
- (d) Received $20 000 from accounts receivable.
- (e) Issued additional shares of $300 000.

(ii) Which of the above transactions increase total liabilities?

2.6 Managers and the balance sheet

LO10

Why do managers care about their companies' balance sheets? The basic reason is that many outsiders do, including owners, creditors, tax authorities and unions. Read any issue of a business newspaper or magazine and you will see frequent references to the importance of the balance sheet and levels of debt. For example:

> Rob Ltd was an attractive prospect because it had a strong balance sheet.
> The balance sheet shows a weak financial structure. Management must solve this problem before risk-shy investors can be expected to take an interest in the company.
> The balance sheet shows the large cash reserves, so one can only guess that management is looking to buy another company.
> X Ltd's debt-to-equity ratio is high for the industry.
> The underlying strength of PB's balance sheet is hard to ignore.
> W Ltd has grown because it has a very conservative balance sheet that provides opportunities.

The balance sheet reports what the organisation's position (assets, liabilities and shareholders' equity) is at a point in time (the financial year-end or any other date on which the balance sheet is prepared). It shows the assets (resources) that management has chosen to acquire for the organisation, and how management has decided to finance those assets. Therefore, it provides a useful picture of the state of the company and is used by many outsiders to evaluate the quality of management's decisions on obtaining, deploying and financing assets. For better or worse, it is the summary of all the information recognised by accounting and is, to many people, the basic score card of management's stewardship of the company.

The balance sheet does not directly state how management has performed in using assets to earn profit. Such information is contained in the income statement, but all of it correlates with the basic double-entry information contained in the balance sheet. Good profit performance, for example, is reflected in increased assets and shareholders' equity (retained profits). The strengths and weaknesses of the balance sheet, which will be explored throughout this book, are therefore fundamentally important to managers, who are responsible for managing companies' assets and liabilities.

Managers' own salaries, promotions, careers and reputations depend on other people's decisions (such as investors' decisions to buy and sell shares) which, in turn, rest to some extent on balance sheet information.

2.7 The income statement

LO6
LO7

A business exists over a period of time. If the owners and managers are successful, it may prosper for a long time. Suppose a measure of the company's financial performance is desired for comparison with other companies, for assessing income tax, for help in deciding how much to sell the company for, or for many other reasons we will come to. How could such performance be measured?

We might measure the company's financial performance by closing it down, selling off all its assets, paying off all its liabilities and discovering how much is left for the owners. Good performance would be indicated if the money left for the owners plus the amounts they withdrew over the years were greater than the amount they put in when they founded the company, perhaps adjusted for inflation over that time and for the owners' costs in raising the money they put in.

But killing the business to measure how well it has been doing is a little drastic! Waiting until it dies of natural causes hardly seems any better: many companies have outlasted generations of owners and managers. It would be more useful to measure performance over selected shorter periods of time: annually, every three months (quarterly) or on a monthly basis. People could then make their decisions about investing in the company or selling their shares, and hiring managers or firing them, when they wanted to do so.

This is where the income statement becomes useful. This statement uses accrual accounting to measure financial performance over a period of time, usually a year, six months, three months or one month, indicating the net profit for the period, calculated as revenues minus expenses.

Net profit for the period = Revenues – Expenses for the period

Revenues and expenses

Recall that in section 1.5 the concepts of revenues and expenses were introduced. As part of the conceptual framework of accounting, official pronouncements developed definitions of revenues and expenses. They were developed to be applicable to a range of measurement models and to include some transactions unique to the public sector. Consequently, the definitions are difficult to follow, especially for students in their second week of an accounting course. As a result, we will defer discussion of these definitions until Chapter 13. Below are some fundamental definitions that cover most revenues and expenses.

REVENUES

Revenues are described here as increases in the company's wealth arising from the provision of services or the sale of goods to customers. Wealth increases because customers:

- pay cash for goods or services
- promise to pay cash (such promises are called 'accounts receivable' for goods and services)
- (more rarely) pay with other forms of wealth, such as by providing other assets to the company or forgiving debts owed by the company for goods and services.

If, *in return for services or goods*, a customer paid $1000 in cash, another customer promised to pay $1000 later, another gave the company $1000 in equipment, or another forgave a $1000 debt the company had owed the customer, each would be called a revenue of $1000.

Interest and dividends received are also examples of revenue because they are increases in wealth as a result of providing a service (lending or investing money in another organisation).

The key test for revenue recognition is *whether the goods or services have been rendered* (e.g. delivery to customers or the provision of a service). Revenue recognition can become quite complicated for some companies. For example, if a company received a contract to build a new highway from Brisbane to Melbourne, when would revenue be recognised? This and other more complicated questions concerning revenue recognition will be addressed in Chapter 13.

EXPENSES

Expenses are the opposite of revenues. They are *decreases in the company's wealth that are incurred in order to earn revenue*. Wealth decreases because operating costs have to be paid; customers have to be given the goods they have paid for; long-term assets wear out as they are used to earn revenue; and liabilities may be incurred as part of the process.

If, *as part of its attempt to earn revenues*, the company paid $600 in rent, or the goods bought by a customer cost the company $800 to provide, the equipment depreciated by $400, or the company promised

to pay an employee $500 in wages later on for work already completed, each of these would be called an expense (rent expense $600, cost of goods sold $800, depreciation $400, wages expense $500).

A major expense category that sometimes causes confusion is the cost of goods sold (COGS) expense. In the examples above, if the goods bought by the customer cost the company $800 to provide, $800 is the cost of the goods sold that earned revenue of $1000. The revenue is what the customer agrees to pay; the cost of goods sold is what it costs the company to provide those goods. Therefore, a transaction with a customer who is buying goods has two aspects:

- the company is better off because of the revenue gained
- the company is worse off because of the cost of the goods that the customer takes away.

When the company buys the goods for sale, they begin on the balance sheet in the asset account 'inventory of unsold goods'. When they are sold, their cost is transferred from the asset account to the expense account 'cost of goods sold'. This is done as a separate accounting activity from recording the revenue, because it is a separate economic event.

HOW'S YOUR UNDERSTANDING?

2H During the year a retailer buys 800 televisions at $400 each and sells 600 of them for $1000 each. Calculate the following:

(i) Sales revenue for the year

(ii) Cost of goods sold for the year

(iii) The closing balance of inventory in the balance sheet related to the televisions.

PROFIT

Both revenues and expenses are measured by following the concepts of accrual accounting; therefore, they represent increases or decreases in wealth, whether or not cash receipts or payments occur at the same time. As net profit is the difference between revenues and expenses, it represents the *net inflow of wealth* to the company during the period. The reporting of net profit means that the company has become wealthier during the period. If net profit is negative – that is, if revenues are less than expenses – it is instead called net loss, and represents a net *outflow of wealth*. In this case, the company has become less wealthy.

Expenses include all the costs of earning the revenues, including income and other taxes, but they do not include payment of returns to owners (withdrawals by sole traders or partners, or dividends to shareholders of companies). Payments, or promises of payment, of returns to owners (such as when a company's board of directors *declares* – or promises – a dividend) are considered to be *distributions* of net profit to owners. The undistributed remainder is kept in the company as retained profits.

HOW'S YOUR UNDERSTANDING?

2I Calculate the total revenue and expenses for the month of June 2019, given the following:

(i) Credit sales of $200 000 made in June; 50 per cent to be collected in June.

(ii) Cash sales of $300 000.

(iii) Received $20 000 as a deposit from a customer in June for a job to be carried out in July.

(iv) Paid salaries of $40 000; $10 000 related to work carried out in May and $30 000 related to June work.

(v) Paid rent for the month of June of $6000 on 7 June.

(vi) Received a bill for $1500 from an electrician for work done on 20 June. This will be paid next month.

The relationship of profit for the period to retained profits

Retained profits is the sum of past net profits, measured since the company began, minus dividends declared (even if not yet paid) to owners since the beginning. Retained profits from the end of the preceding period (year, quarter, month or whatever) are therefore increased by profits for the period and reduced by any dividends.

Retained profits at end of period	= Retained profits at beginning of period
	+ Net profit (or − Net loss) for the period
	− Dividends declared during the period

An alternative format to show the change in retained profits is:

Start with retained profits, beginning of period (end of previous period)	XXXX
Add net profit for the period	XXXX
Deduct dividends declared during the period	(XXXX)
Equals retained profits, end of period	XXXX

In the above example, the company earned a profit. If the company performed badly, the profit could be negative (expenses greater than revenues, producing a net loss instead), and in that case, the net loss is deducted from the beginning retained profits. If things get really bad, retained profits can also be negative (losses having overtaken profits).

You might be interested to know that you can, *if you have the past records*, go back year by year, figuring out how much profit was added to retained profits each year and how much in dividends was deducted. You could go all the way back to the first day of the company, when there had not yet been any profit and, therefore, not yet any retained profits. The balance sheet can be said to reflect everything that has ever been recorded in the accounts: it is the accumulation of everything that has happened from when the company began until now.

In a company, the board of directors is the senior level of authority, which looks after the company on behalf of the owners. When the board declares a dividend, the amount is deducted from retained profits at that time. At that point, the company has a liability to the owners, which it pays off later by sending the owners the promised cash. This involves two principles of financial accounting:

1. Transactions with owners, of which the main example is dividends, are taken out of retained profits. They are not an expense, and therefore are not deducted in calculating profit for the period.
2. Owners can be creditors too, if they are owed dividends or have lent the company money in addition to the shares they bought.

HOW'S YOUR UNDERSTANDING?

2J The following transactions occurred during 2019:

(a) Issued shares to investors for $100 000 cash
(b) Borrowed $61 000 from the bank
(c) Purchased equipment for $17 000 cash
(d) Purchased $723 000 of additional inventory on credit
(e) Sold $1 141 900 of products to customers on credit; cost of the goods was $700 000
(f) Incurred $218 200 in selling expenses, paying 80 per cent in cash and owing the rest
(g) Paid cash dividends of $16 000
(h) Earned $4000 interest on investments, receiving 75 per cent in cash

>

(i) Incurred $2900 in interest expense to be paid at the beginning of next year
  (i) What was revenue for the year?
  (ii) What are expenses for the year?
  (iii) What is the net profit?
  (iv) If the opening balance of retained profits was $1 million, what is the closing balance?

2.8 Connecting balance sheets and income statements

LO9

The balance sheet shows all assets, liabilities and shareholders' equity accounts at a point in time. Usually the balance sheet is comparative, showing the accounts at both the beginning of the income statement's period (i.e. the end of the previous period) and at the end of the income statement's period, and therefore showing both the beginning retained profits and the ending retained profits.

Assets at beginning	=	Liabilities + equity (including retained profits) at beginning
Assets at end	=	Liabilities + equity (including retained profits) at end
Change in assets	=	Change in liabilities + change in equity (including retained profits)

Suppose a corporation had assets of $1200 at the beginning of a year and $1450 at the end, and liabilities of $750 at the beginning and $900 at the end. We can deduce that its equity was $450 at the beginning and $550 at the end (i.e. Assets − Liabilities = Equity). These data produce the following calculation of the changes in the balance sheet categories:

	Assets		Liabilities		Equity
Beginning:	$1200	=	$750	+	$450
Ending:	$1450	=	$900	+	$550
Changes:	$ 250	=	$150	+	$100

Where did the change in equity come from? Upon investigation, we find out that the company issued more share capital of $40, earned profit of $185 and declared a dividend of $125. Thus:

	$	$
Share capital change:		
Equity increase due to issued share capital		40
Retained profits change:		
Equity increase due to profit	185	
Equity decrease due to declaration of dividend	(125)	60
Change in equity between the two balance sheets		100

We know what the profit was, but not what the company did to earn it. This is what the profit and loss component of the income statement is for: describing the revenues and expenses that produced the $185 profit. But once we have that, it is useful to know how that factors in to the balance sheet. The net profit is part of the change in retained profits, which in turn is part of the change in the balance sheet over that period. The statement (or note) showing changes in retained profits therefore 'knits' the balance sheet and the income statement together by showing that the net profit is part of the change in the balance sheet over the period. (Accountants refer to this knitting together as the articulation of the two statements.) Profit is part of the change in retained profits for the period, therefore:

Profit is part of the equity component of the accounting equation

Make sure you understand how this works:

- A *revenue* increases wealth, so it either increases assets or decreases liabilities, and therefore increases equity.
- An *expense* decreases wealth, so it either decreases assets or increases liabilities, and therefore decreases equity.
- Positive *net profit* has the overall effect of increasing assets and/or decreasing liabilities, and therefore increases equity (increases due to revenues exceed decreases due to expenses).
- A *net loss*, which is negative net profit, does the opposite, decreasing equity (decreases due to expenses exceed increases due to revenues).

At this stage make sure you grasp the idea that profit is part of equity through retained profits. Note that in Chapter 13 you will see that the full income statement includes other equity changes that articulate through to the balance sheet.

FOR YOUR INTEREST

People sometimes think that the whole balance of retained profits is available to pay dividends. Legally that may be true, but practically it is very unlikely to be true, because profit comes from changes in all the forms of wealth on the balance sheet.

A company that has made good profits and used the money earned to invest in new plant and equipment, for example, would have to sell the plant and equipment if it were to pay out all the retained profits as dividends. Also, since profit is based on accrual accounting, it is represented by changes in non-cash accounts such as accounts receivable (uncollected revenues) and accounts payable (unpaid expenses), so the profit in retained profits is not all cash, and the company might have to clear up all its receivables and payables to get the cash to pay a big dividend. The owners may not even want a dividend: many companies that pay small or no dividends have excellent share prices on the stock market, because shareholders believe that the companies will grow and prosper if the money that could have been paid as dividends is instead kept inside the company and used to make profitable business investments.

An example of articulation between the balance sheet and the income statement

Bratwurst Ltd had the following balance sheet at the end of 2018 (beginning of 2019): assets $5000, liabilities $3000 and equity $2000.

- The beginning equity figure was made up of the shareholders' invested share capital of $500 plus retained profit accumulated to the end of 2018 of $1500. (That $1500 was therefore the sum of all the net profits the company had ever had up to the end of 2018 minus all the dividends ever declared to owners up to that point.)
- During 2019, the company had revenues of $11 000 and expenses of $10 000, and declared dividends to owners of $300.
- At the end of 2019, the company had assets of $5900, liabilities of $3200 and equity of $2700, made up of the shareholders' invested share capital of $500 plus retained profits of $2200.

  Exhibit 2.6 shows the relationship.

EXHIBIT 2.6

BRATWURST LTD

INCOME STATEMENT FOR 2019

	$
Revenues	11 000
Expenses (including income tax)	10 000
Net profit for 2019	1 000

NOTE SHOWING CHANGE IN RETAINED PROFITS FOR 2019

	$
Retained profits beginning of 2019 (end of 2018)	1 500
Add net profit for 2019 (from income statement)	1 000
	2 500
Deduct dividends declared during 2019	300
Retained profits end of 2019	2 200

BALANCE SHEET AT THE BEGINNING AND END OF 2019

Assets	**End $**	**Begin $**	**Liabilities and equity**	**End $**	**Begin $**
Assets	5 900	5 000	Liabilities	3 200	3 000
			Shareholders' equity		
			Share capital	500	500
			Retained profits	2 200	1 500
Total	5 900	5 000	**Total**	5 900	5 000

You can see several things from this example:

- We have used the term 'retained profits' instead of 'retained earnings'. Both are used in Australia, but the former is more common. In the United States and Canada, 'retained earnings' is much more common.
- The income statement's bottom line is transferred to the statement of retained profits, which is often shown as a note to the balance sheet.
- The retained profits note's bottom line is transferred to the balance sheet, showing that the statements tie together (articulate) through retained profits.

In addition, asset and/or liability accounts in the balance sheet also have to change to reflect the wealth changes that revenues and expenses involve. These changes keep the balance sheet in balance with the change in retained profits. This is true for all companies, not just simple ones like Bratwurst Ltd.

HOW'S YOUR UNDERSTANDING?

2K Suppose Bratwurst Ltd's accounting records showed the following for the next year, 2020: revenues earned $14 200, cash collected from customers $13 800, expenses incurred $12 900, dividends declared $600. (Remember, retained profits equalled $2200 at the end of 2019.) What was Bratwurst's net profit for 2020 and its retained profits as at the end of 2020?

2.9 A closer look at the income statement

LO8 Social and economic forces have helped to produce an income statement that is more complex than the simple Bratwurst Ltd example you saw earlier. See Exhibit 2.7 for Tabcorp Holdings' Income statement.

EXHIBIT 2.7

TABCORP HOLDINGS LIMITED

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE 2017

	2017 $m	2016 $m
Revenue	2 234.1	2 188.7
Other income	(24.1)	4.4
Commissions and fees	(921.4)	(869.2)
Government taxes and levies	(314.1)	(335.0)
Employment costs	(224.0)	(187.6)
Depreciation and amortisation	(183.3)	(178.6)
Impairment	(27.5)	–
Communications and technology costs	(86.3)	(77.9)
Advertising and promotions	(73.3)	(64.0)
Property costs	(54.7)	(43.1)
Other expenses	(223.8)	(136.7)
Profit before income tax expense and net finance costs	101.6	301.0
Finance income	1.6	2.9
Finance costs	(78.3)	(72.8)
Profit before income tax expense	24.9	231.1
Income tax expense	(45.7)	(61.4)
Net profit/(loss) after tax	(20.8)	169.7

Tabcorp Holdings Limited, *Annual Report 2017*.

Among the things you may notice as you review the two statements are:

- The income statement covers a period of time (years ending 30 June in this case), not a point in time, as the balance sheet does. It also is shown in millions of dollars.
- As you already saw with the balance sheets, extensive explanatory notes are normally referred to on the income statement and appended to them. The notes are not attached here. The content of such notes is important, however, so some comments are made about that below, and further attention will be paid to it in later chapters.
- At the top of the statement, the total revenue for the year is disclosed as $2234.1 million.
- Expenses (including employment costs of $224.0 million and commissions/fees of $921.4 million) are then deducted to get operating profit before income tax.
- Income tax is levied on a company's profit because it is legally separate from its owners. Such tax is usually a percentage of profit before income tax (though there are many complications). Income tax expense of $45.7 million is deducted to get net profit/(loss) after tax. In 2016 there was a net profit of $169.7 million but in 2017 a loss of $20.8 million.

- Note that the government taxes and levies ($314.1 million) are not income tax. There are separate taxes related to the gaming industry.
- In 2017 there is an impairment of $27.5 million. This is where companies need to reduce the value of some of their assets below cost and is explained in Chapter 10.

HOW'S YOUR UNDERSTANDING?

2L If the opening balance of retained profits is $850 000, net profit before tax $150 000, net profit after tax $120 000, and $70 000 of dividends were declared, what is the closing balance of retained profits?

FOR YOUR INTEREST

Both in Australia and internationally the label for the statement that provides the profit figure has changed often over recent decades; examples include profit and loss statement, statement of financial performance and income statement. You should be aware of these name changes as some companies may retain the older names for internal documents because of managers' familiarity with them. For example, the use of the term 'profit and loss statement' is still common in many companies.

2.10 Capital markets, managers and performance evaluation

The profit figure, as disclosed in the income statement, has major impacts on managers' salaries, promotions, careers and reputations – especially where capital markets such as stock markets are concerned. Managers of large, publicly traded companies are under constant pressure because of the spotlight on profits and its components. Business and social observers often comment that this spotlight is too intense; that there is more to managerial performance than the profit figure. LO10

An indication of the importance placed on the 'bottom line' can be found in almost any issue of a financial newspaper, such as *The Australian* or the *Australian Financial Review*, in their regular announcements of companies' annual and/or half-yearly profits. These announcements presumably are meant to focus on the crucial bits of information. The emphasis is on profit. There is limited data about non-financial performance, longer-term issues or other aspects of managers' efforts. This is not to say that these other factors are not considered at some point, but when announcements tend to stress profits, other things can be overlooked.

The announcements show sales, profits before tax (pre-tax), net profit after tax (net), earnings per share (EPS), interim and final dividends per share (which includes the date of payment; 'ff' signifies the dividend is fully franked, meaning that tax has already been paid on the profits by the company; 'p' means it is partly franked) and the present share price, which includes the change from the previous day (shares last).

Some figures are converted to per-share data (roughly, these are the profit figure divided by the number of ordinary shares issued by the company). Per-share amounts are thought to be helpful to the user who owns or is thinking of buying a particular number of shares and wonders what portion of the company's results can be related to that number of shares. If you own *n* shares of X Limited, you can say that your shares earned $0.555 *per share* in the 2019 financial year, up from $0.481 per share in the previous financial year.

Share price information is given for the current period. For example, it shows that the share price of X Limited at the last sale the previous day was $5.36, which was down 4.2 cents on the previous day's closing price.

When the financial statements are produced, and announcements like Exhibit 2.8 are made from them, the statements will reflect the same things. Therefore, share prices will go up or down when investors receive news about a company that changes the attractiveness of its shares. If this news comes out before the financial statements and the above announcements (which is usually the case, especially for well-known companies that are frequently in the news), then the share price will already have changed in the manner to be expected from the announcements. If an announcement (surprisingly good or bad results) is not expected, then the share prices will change when the announcement is made, because the announcement *is* the news. In either case, share market prices and profit announcements tend to end up moving in the same direction, and therefore are correlated.

EXHIBIT 2.8

X LIMITED

ANNOUNCEMENTS OF COMPANY PROFITS IN THE FINANCIAL PRESS

Full year	2019 $m	2018 $m
Sales	1 672.2	1 571.3
Pre-tax	537.9	491.7
Net	605.6	529.3
EPS	55.5¢	48.1¢
Final div.	13¢ff	13¢ff
Shares (last)	$5.36	–4.2¢

Managers of companies with traded shares are therefore keenly aware of accounting's profit measurement, because accounting is tracking factors that investors are concerned about. If the investors do not learn about these factors from other sources, they will certainly learn about them from the accounting statements.

The income statement is also important for managers of smaller companies or private companies. While their shares are not traded, managers and owner–managers of smaller companies are also concerned about management bonuses, income tax and other effects of profit figures.

Managers of many companies – especially, but not only, larger corporations – go to great lengths to explain their performance to investors and to people on whom investors rely, such as share market analysts and business journalists. Therefore, every manager should be conversant with how her or his performance is measured in the income statement – because a lot of other people are!

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Calculate net profit

Assume this is the first year of operations for the company. Using the following information calculate net profit before tax.

	$
Credit sales	300 000
Cash sales	100 000
Cash received from accounts receivable	160 000
Cost of goods sold	70 000
Cash purchases of inventory	90 000
Operating expenses paid	80 000
Operating expense incurred during the year but owing at year-end	30 000

PRACTICE PROBLEM B

Prepare a balance sheet appropriately classified

From the following information, prepare a balance sheet, appropriately classified, as at 30 June 2019 for PSM Limited.

	$000
Share capital	108 518
Cash	11 636
Accounts payable	43 091
Investments ($3 371 000 held for short-term investment)	5 458
Retained profits	28 546
Prepayments	3 958
Accounts receivable	47 515
Long-term borrowings	30 866
Inventory	66 479
Provisions for employee entitlements ($30 919 000 due within one year)	34 888
Property, plant and equipment	67 760
Other long-term assets	42 742
Other receivables (due in more than one year)	361

PRACTICE PROBLEM C

Revenues and expenses

The following transactions occurred during 2019.

1 Issued shares to investors for cash.
2 Provided services to customers, receiving part in cash and the rest on credit.
3 Incurred advertising expense, paid in cash.
4 Collected cash from accounts receivable.
5 Repaid a bank loan.

6 Purchased equipment on credit.
7 Bought inventory for cash.
8 Sold goods on credit (COGS equals 60 per cent of sales).
9 Paid wages expense for the period.
10 Received a loan from the bank.
11 Incurred maintenance expense, paid cash.
12 Declared and paid a cash dividend to investors.

For each of the transactions, indicate the effect (+ for increase and – for decrease) of each transaction on revenues, expenses and net profit. Write NE if there is no effect.

PRACTICE PROBLEM D

Income statement and balance sheet

Isabelle Limited started business on 1 September 2019. During the first month in business the following transactions occurred.

a Issued share capital, $100 000.
b Paid one month's rent of $2000.
c Provided services to customers on credit, $30 000; $11 000 of this amount had been received by the end of the month.
d Paid wages of $7000.
e Received a $1000 bill for cleaning services on the newly rented property. The bill will be paid in October.

Required:

1 Prepare an income statement for the month of September 2019.
2 Prepare a balance sheet at 30 September 2019.

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 Define the following terms in your own words:
   a revenue
   b expense
   c net profit
   d dividend
   e retained profits
   f shareholders' equity.
2 What is the difference between current and noncurrent assets?
3 What is the difference between current and noncurrent liabilities?
4 Do liabilities always involve future payments of cash?
5 Suggest two ways retained profits may decrease.
6 How can a balance sheet answer the following questions:
   a Is a company financially sound?
   b Can a company pay its bills on time?
   c Should the board of directors declare a dividend?
   d How old is the equipment?

7 Explain the main differences between the alternative methods of setting out a balance sheet: the side-by-side style and the vertical style.
8 List three liabilities that can be either current or noncurrent liabilities. What determines their categorisation?
9 The CEO of a large Australian company announced at a recent shareholders' meeting: 'Our people are our greatest assets.' If this is the case, why are they not included in the balance sheet?
10 Explain the following in non-technical language that a business person who has not read this text would understand:
   a Why is net profit part of shareholders' equity?
   b Why are dividends to shareholders not considered to be an expense in calculating net profit? Employee wages are considered to be an expense, as is the cost of products delivered to customers, and shareholders must be kept happy, as must employees and customers.
11 Why are inventory and accounts receivable normally current rather than noncurrent assets? When would they be noncurrent assets?
12 Provide one example each of investments, intangibles, prepayments and accrued expenses.
13 Provide an indicator of whether a company is financially sound.
14 Provide an indicator of whether a company can pay its bills on time.
15 Consider any company you are familiar with or interested in and make a list of all the people who might be interested in its balance sheet. Make your list using the following headings:

Person (decision-maker)	Use (decision to be made)

Try to think about the 'use' issue broadly: your list could easily be a long one. You might make it even more broad by including people you think might like to use the balance sheet but whose needs are not served by it as you understand it, or who do not have timely access to it.

16 'Financial reports are no longer timely today.' Discuss.
17 Can a single balance sheet ever satisfy all the users of a company's financial statements, or should there be different balance sheets prepared to meet the differing needs of users? Write a paragraph giving your considered views.
18 'You can have a perfectly accurate balance sheet 50 years after year-end.' Discuss.
19 Explain why the difference between current and noncurrent liabilities is important to a company.
20 Explain the difference between an accrued expense and a provision.

PROBLEMS

PROBLEM 2.1

Classifying accounts on a balance sheet

Below are some of the accounts of MM Ltd:

1 Share capital
2 Accounts payable
3 Cash and cash equivalents
4 Inventory
5 Borrowings
6 Provision for employee entitlements (current portion)
7 Wages payable
8 Equipment
9 Prepayments
10 Retained profits

State whether each would be classified as an asset, a liability or shareholders' equity.

PROBLEM 2.2

Interpreting balance sheets

1 'The company is in a position to utilise a strong balance sheet to make acquisitions that should boost its earnings per share.'
2 'The company has maintained a strong balance sheet and had ample capacity to expand its business.'

Discuss the implications of each of these statements from the point of view of the comments made on their balance sheets.

PROBLEM 2.3

Prepare a classified balance sheet

Based on the following information, prepare an appropriately classified balance sheet as at 30 June 2019 for JKL Limited.

	$000
Share capital	45 092
Cash	63 382
Accounts payable	105 344
Retained profits	39 346
Accounts receivable	98 264
Interest-bearing liabilities (current)	192 370
Inventories	110 234
Provisions (current)	70 876
Property, plant and equipment	181 148

PROBLEM 2.4

Prepare a classified balance sheet

From the following information, prepare a balance sheet, appropriately classified, as at 30 June 2019 for Cobin Ltd.

	$
Share capital	150 000
Property, plant and equipment, at cost	550 000
Accounts payable	61 000
Accounts receivable	68 000
Cash and cash equivalents	43 000
Notes payable	30 000
Prepayments	10 000
Long-term debt, excluding current portion	200 000
Long-term investments	110 000
Provision for employee entitlements (noncurrent)	34 000
Retained profits	184 000
Income taxes payable	32 000
Inventory	81 000
Patents and trademarks	44 000
Current portion of long-term debt	25 000
Accumulated depreciation	190 000

PROBLEM 2.5

Explain balance sheet ideas to a business executive

You are the executive assistant to Stephane Solden, a particularly hard-driving and successful owner of a chain of restaurants. Not long ago, Solden and you were flying to another city, and the inflight film was so bad the two of you ended up talking about all sorts of things. One subject was Solden's impatience with accountants and accounting which, probably because the annual audit of the company's accounts was then taking place, seemed particularly strong. How would you respond to the following questions from Solden?

1 'The main thing that sticks in my mind about the balance sheet is that the thing balances! Who cares? Why should it matter?'

2 'My auditor keeps wanting to talk to me about what the balance sheet says about the company's finances and how I've managed them. But I always look to the future – why should I care about the balance sheet when it's just a ''snapshot'' of history?'

3 'Last year, I had a really good idea about the balance sheet. You know, I consider our restaurant managers to be the most important asset the company has. I was going to have the managers added to the balance sheet as assets, so it would show all our assets. But the accountants and auditors didn't seem interested in my idea. Why not?'

Required:

Classify each item as it would be reported on a balance sheet using the following categories: current asset, noncurrent asset, current liability, noncurrent liability and shareholders' equity.

PROBLEM 2.6

Prepare a classified balance sheet

From the following information, prepare an appropriately classified balance sheet as at 30 June 2019 for SPOM Limited.

	$000
Share capital	71 667
Cash	32 000
Accounts payable	57 634
Retained profits	42 666
Receivables ($1 549 000 due in more than one year)	49 132
Interest-bearing liabilities ($8 732 000 due this year)	96 185
Intangibles	49 053
Inventories	55 117
Provisions ($31 704 000 due within one year)	35 438
Property, plant and equipment	90 574
Other long-term assets (financial assets)	19 390
Prepayments	8 324

PROBLEM 2.7

Basic retained profits ideas

Assume a balance of $12 220 for retained profit at 30 June 2019.

1 Explain what 'retained profits' represents.

2 For the year ended 30 June 2019, the company's revenues were $101 160 and its expenses (including income tax) were $98 810. During the year ended 30 June 2019, the company declared dividends of $1200. What was the balance in retained profits at the beginning of that year (1 July 2019)?

3 If the 2019 expenses were $116 000 instead of the figure in point 2, and the company did not declare any dividends, what would the retained profits be at 30 June 2019? How would you interpret this number?

PROBLEM 2.8

Income statement and balance sheet

The following account balances are taken from the books of Century Cinemas on 31 December 2019. Revenues and expenses are for the year ended 31 December 2019. The retained profits balance is as at 1 January 2019.

	$
Accounts receivable	13 450
Accounts payable	13 910
Advertising expense	42 780
Cash	4 610
Confectionery sales	12 300
Cost of confectionery sold	10 500
Electricity expense	5 090
Furniture and fittings	34 000
Inventory	18 000
Land and buildings	60 000
Loan payable	35 000
Projection equipment	41 000
Rent expense	33 200
Retained profits, 1 January 2019	59 720
Share capital	60 000
Ticket revenue	81 700

1. Prepare an income statement for Century Cinemas for the year ended 31 December 2019.
2. Prepare a note for retained profits for the year ended 31 December 2019.
3. Prepare a balance sheet as at 31 December 2019.

PROBLEM 2.9

Indicate the effects of transactions

With respect to the current accounting period, show the effect of the following transactions on net profit and cash for the period.

1. Purchase inventory on cash for $40 000.
2. Recording depreciation of $10 000.
3. Credit sale of a service for $30 000.
4. Payment of a cash dividend of $8000.
5. Payment of salary for the current period of $20 000.
6. Interest payment on a loan of $7000.
7. Repayment of a loan of $100 000.
8. Payment of an invoice for advertising of $13 000 that had been recorded as an expense in the previous period.

PROBLEM 2.10

Effect of transactions on assets, liabilities and shareholders' equity

What is the effect on assets, liabilities and shareholders' equity of each of the following transactions?

1. Contribute cash to the company in return for shares.
2. Borrow money from the bank.
3. Receive payment from a debtor.

4 Purchase inventory on credit.
5 Purchase inventory for cash.
6 Pay accounts payable.
7 Receive interest that was due from the previous accounting period.
8 Purchase furniture and fittings on credit.
9 An owner's contribution of his motor vehicle to the company in return for additional shares.

PROBLEM 2.11

Recording of assets

State whether or not an asset should be recorded in the balance sheet of WXY Ltd as at 30 June 2019 in each of the following situations. State the amount (if any) of the asset, and any assumptions made.

1 On 15 May 2019, XYZ Ltd paid Insurance Ltd $40 000 for an insurance premium. The premium covers losses incurred due to fire, theft or other causes up to 14 May 2020.
2 XYZ Ltd paid $20 000 for a patent in April 2019.
3 XYZ Ltd has just hired a new general manager who is an expert in the business carried on by XYZ Ltd. With the help of this person, the company is expected to increase its annual profits by $700 000. The general manager's salary is $400 000 per annum.
4 XYZ Ltd purchased land in 2012 for $100 000. The market value of this land is $150 000 as at 30 June 2019.
5 Equipment purchased for $2 million and costs an additional $400 000 to install.
6 Purchased a computer with a 'sticker price' of $3000 but because they were a regular customer XYZ was charged only $2700.

PROBLEM 2.12

Recording of liabilities

State whether or not each of the following events would result in a liability being recognised in the accounts at 30 June.

1 Taxes for the year ended 30 June, which are not payable until October.
2 Wages to be paid on 2 July to cover the two-week period up to 30 June.
3 The company sells washing machines and gives a one-year warranty to repair or replace any faulty machines.
4 A construction company receives a $10 million advance in June on a contract. The work will commence in July.
5 The company has signed a contract to pay its managing director $1 million per annum (inflation adjusted) for the next four years.

PROBLEM 2.13

Recognise revenue

Calculate the total revenue for the month of February 2019, given the following transactions.

1 Credit sales of $200 000 made in February; 50 per cent to be collected in February.
2 Cash sales of $190 000.
3 Received rental revenue of $8000 for the month of February.
4 Interest of $12 000 is credited to the company bank statement. It relates to interest earned for the six months from 1 August 2018 to 31 January 2019.
5 Received $20 000 as a deposit from a customer for a job to be carried out in March.

PROBLEM 2.14

Recognise revenue

Copier Ltd manufactures and sells small home photocopiers to homes and small businesses; it also sells cartridges to go in the copiers and monthly magazines on running a small business.

Consider the following transactions:

1 It delivers 15 photocopiers; the customer promises to pay $30 000 within two months.
2 It buys a motor vehicle with a list (or 'sticker') price of $41 000 for $31 200 cash.
3 It receives orders for 1000 ink cartridges from customers for $22 each for future delivery. The terms require payment in full within 30 days of delivery.
4 It completes production of the ink cartridges described in point 3 and delivers the order.
5 It issues $2 million in new shares.
6 It receives a total of $4800 from subscribers to the magazine. The subscriptions cover a full 12 editions for the year. Only the first edition has been posted to customers.

For each of the above transactions, state if revenue is to be recognised in the current financial year, and indicate the revenue account title and amount. If revenue is not to be recognised this year, explain why.

PROBLEM 2.15

When is revenue earned?

Is revenue earned from the following transactions? Give reasons for your answers.

1 Goods costing $7000 are sold for $9500.
2 Goods costing $7000 are sold for $7000.
3 Goods costing $7000 are sold for $4500.
4 A surveyor sends an account for $15 000 to a builder for work in connection with a subdivision of a block of land.
5 An electrical store provides a free service on a television set during the warranty period. The cost to the store was $250.
6 A company receives a dividend of $8000 on one of its investments.
7 Goods costing $1000 are sold for $1600. Instead of paying for the goods, the customer cleans the store's windows. This cleaning is normally carried out by an outside contractor at a cost of $1600.

PROBLEM 2.16

Recognise expenses

Calculate the total expenses for the month of February 2019, given the following transactions.

1 Paid salaries of $20 000; $5000 related to work carried out in January and $15 000 related to February work.
2 Paid commission expenses of $18 000 in February. The commission related to January sales.
3 Paid rent for the month of February of $5000 on 9 February.
4 Received a bill for $800 from a plumber for repair work done on 25 February. This will be paid next month.
5 Purchased a block of land for $300 000 paying cash.

PROBLEM 2.17

Recognising expenses

Calculate the total expenses for the month of June 2019, given the following transactions.

1 Paid salaries of $60 000; $50 000 related to work carried out in May 2019 and $10 000 related to June 2019.
2 A phone bill for $1200 was received for the usage on June. This amount will be paid on 1 July 2019.
3 A $65 000 deposit was paid for a block of land.
4 Paid rent for the month of June of $6000 on 1 June 2019.
5 A commission expense of $8000 was paid in June. The commission related to April sales.

PROBLEM 2.18

Accountants, ethics and the balance sheet

As has been indicated several times so far (in section 2.10, for example), managers of businesses and other organisations are very concerned about how the balance sheet reflects their management of the organisation. This is very understandable, and generally appropriate too, because such concern is likely to make managers

want to do a good job of managing. But it can also lead to a temptation to alter the information in a manager's favour.

The possibility of such a temptation is part of the reason auditors are employed to examine financial statements, including the balance sheet. This temptation can also produce ethical problems for professional accountants employed by the organisation. On the one hand, a company accountant is bound by the ethical rules of the profession to see that proper accounting methods are followed in preparing the company's balance sheet, which would imply that the information should not be altered in management's favour. On the other hand, such an accountant works for senior management and is likely to be bound by the contract of employment to put the organisation's interests first. What does an accountant (such as the chief accountant responsible for preparing the organisation's financial statements) do if senior management (like the CEO) wants to alter the balance sheet to make things look better and makes a good case that this action will help the organisation get bank loans and the other assistance it needs?

Discuss this situation from the viewpoint of both the CEO and the chief accountant.

CASES

CASE 2A Woolworths Limited

Refer to the extracts of the 2017 annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 At what point in time is the balance sheet drawn up?
2 What is the currency in which accounts in the balance sheet are measured?
3 Illustrate how the 2017 balance sheet of Woolworths Limited balances.
4 How were the assets financed?
5 How is the 'net assets' figure determined?
6 What are the balances of current assets, current liabilities, noncurrent assets and noncurrent liabilities at 25 June 2017?
7 What is the balance of working capital at 25 June 2017?
8 What dividends were paid during the year?
9 What is the amount of share capital issued?
10 What companies would be included in the consolidated figures?
11 What is cost of goods sold for Woolworths in 2017?
12 For Woolworths in 2017, are the net profits from ordinary activities after tax and the change in the cash balance the same amounts?
13 What is the amount of net profit for 2017?
14 What amount of revenue was earned in 2017?
15 How much inventory (in dollars) does the company have as at 25 June 2017?
16 By what amount did cash and cash equivalents change during the most recent year?

CASE 2B The importance of balance sheets in making decisions

Newspaper articles often refer to balance sheets with terms such as 'the importance of a strong balance sheet', and 'not wanting to weaken a strong balance sheet or adversely affecting the debt rating by a stock buyback'.

Required:

1 What is meant by a strong balance sheet?
2 What is the effect of issuing more shares on the strength of the balance sheet?
3 What is meant by a share buyback?
4 What effect does a share buyback have on the accounting equation?
5 What is meant by a debt rating? Why is it important?
6 Why is a strong balance sheet important for each of the Australian states (e.g. NSW, Queensland, South Australia, Tasmania, Victoria, Western Australia)?

HOW'S YOUR UNDERSTANDING SOLUTIONS

2A Assets: cash at bank, accounts receivable, buildings. Note that accounts payable and retained profits are not assets as they are liabilities and equity respectively.

2B Share capital (SE) and employees (not included in a balance sheet).

2C (i) Accounts payable, wages payable and taxes payable.
(ii) No, the transaction bringing the benefit has not happened.
(iii) 1 May.

2D Liabilities, share capital and retained profits.

2E (i) Current assets $3300 ($1100 + $1700 + $500), noncurrent assets $2000; total assets $5300; current liabilities $2100, noncurrent liabilities $0; share capital $1000, retained profits $2200; shareholders' equity $3200; and total liabilities and equity $5300.
(ii) Working capital is $1200; the working capital ratio is 1.57, so it is not as strong currently as Sound and Light is. Liabilities of $2100 are 39.6 per cent of total sources, with a debt-to-equity ratio of 65.6 per cent, so the company's financing is similar to Sound and Light's, though all of its liabilities are current, which is unusual.

2F Total assets of $1270 (640 + 210 + 890 – 470) and total liabilities of $610 (250 + 360) (giving net assets of $660), and shareholders' equity of $660.

2G (i)
- a No effect: equipment increases but cash decreases.
- b Increases by $30 000 (inventory).
- c Increases by $50 000 (cash).
- d No effect: cash increases but accounts receivable decreases.
- e Increases by $300 000 (cash).

(ii) Only transactions (b) and (c) increase liabilities. Transactions (a) and (d) affect two different assets. Transaction (e) increases an asset and shareholders' equity.

2H (i) Sales revenue: 600 × 1000 = 600 000.
(ii) COGS: 600 × 400 = 240 000.
(iii) Inventory: 200 × 400 = 80 000.

2I Revenue $200 000 + $300 000; expenses $30 000 + $6000 + $1500.

2J (i) $1 141 900 + $4000 = $1 145 900.
(ii) $700 000 + $218 200 + $2900 = $921 100.
(iii) $1 145 900 – $921 100 = $224 800.
(iv) $1 000 000 + $224 800 – $16 000 = $1 208 800.

2K Net profit: $14 200 – $12 900 = $1300
Closing retained profits: $2200 + $1300 – $600 = $2900.

2L $850 000 + $120 000 – $70 000 = $900 000.

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

	$
Sales (300 000 + 100 000)	400 000
COGS	(70 000)
Other operating expenses (80 000 + 30 000)	(110 000)
Net profit before tax	220 000

PRACTICE PROBLEM B

PSM LIMITED
BALANCE SHEET AS AT 30 JUNE 2019

	$000
Current assets	
Cash	11 636
Accounts receivable	47 515
Inventory	66 479
Prepayments	3 958
Investments	3 371
Total current assets	132 959
Noncurrent assets	
Other receivables	361
Investments	2 087
Property, plant and equipment	67 760
Other long-term assets	42 742
Total noncurrent assets	112 950
Total assets	245 909
Current liabilities	
Accounts payable	43 091
Provisions for employee entitlements	30 919
Total current liabilities	74 010
Noncurrent liabilities	
Long-term borrowings	30 866
Provisions for employee entitlements	3 969
Total noncurrent liabilities	34 835
Total liabilities	108 845
Net assets	137 064
Shareholders' equity	
Share capital	108 518
Retained profits	28 546
Total shareholders' equity	137 064

PRACTICE PROBLEM C

1 NE
2 +Revenue, +Net Profit
3 +Expense, –Net Profit
4 NE
5 NE
6 NE
7 NE
8 +Revenue, +Expense, +Net Profit

9 +Expense, –Net Profit
10 NE
11 +Expense, –Net Profit
12 NE

PRACTICE PROBLEM D

INCOME STATEMENT FOR THE MONTH OF SEPTEMBER 2019

	$	$
Sales		30 000
Expenses:		
Wages	7 000	
Cleaning	1 000	
Rent	2 000	10 000
Net profit		20 000

BALANCE SHEET AS AT 30 SEPTEMBER 2019

	$		$
Assets		**Liabilities**	
Cash[1]	102 000	Accounts payable	1 000
Accounts receivable[2]	19 000		1 000
		Shareholders' equity	
		Share capital	100 000
		Retained profits[3]	20 000
			120 000
	121 000		121 000

[1]100 000 – 2000 + 11 000 – 7000 = 102 000
[2]30 000 – 11 000 = 19 000
[3]As there is no opening retained profits and no dividends, it is profit figure from the income statement

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APPENDIX TO CHAPTER 2

Background: sole traders, partnerships, companies and financing

To help you further understand the balance sheet, read the following background material. This section focuses on the right-hand side of the accounting equation, examining how the form of business organisation determines the way owners' equity is shown on the balance sheet and outlining how both right-hand terms indicate how the assets are financed. This book's glossary will also help you to understand the terminology.

There are many important forms of organisation, such as businesses organised as partnerships, companies or cooperatives, and non-business organisations such as clubs, charities, governments and political parties. However, they cannot all be described here. Instead, we will focus on four main kinds of business organisations and their main methods of financing.

A2.1 Four kinds of business organisation

You have seen that each balance sheet has an owners' equity section. The examples of Sound and Light Ltd and Chez Ltd indicated that the equity could be considered to be of two general kinds for a business organisation:

- directly contributed equity, in which owners have provided money or other assets to the organisation
- indirectly contributed equity (retained profits), in which owners have allowed profits earned by the organisation to remain there, to help earn more profits in the future.

The legal meaning of being an owner depends on what kind of organisation exists. The equity section of the balance sheet reflects that legal meaning, so that owners and other users will understand the status of their equity. The four main kinds of business organisation are the sole trader, the partnership, the company and the corporate group.

Sole trader

A sole trader (sole proprietorship) is a business owned by one person (the proprietor). It does not legally exist separately from the owner. Because the business does not exist as a separate legal entity, it is said to be unincorporated. If Simone, a jeweller, just starts up a business one day on her own without further legal steps, the business is a sole trader. Legally, such a business is not distinguishable from Simone's non-business affairs. If she wishes, she can use the business cash to buy groceries (although separate records of business transactions must be kept for tax purposes), and if she does not pay her business bills, her creditors can claim against any non-business assets she has.

Because a sole trader has no separate legal existence, the equity section of the balance sheet does not necessarily distinguish between the owner's direct contributions to the business and the indirect contributions by retained profits. Both kinds of equity are simply lumped together as owners' capital. The owners' equity section of the balance sheet just says:

Owners' equity	
Owners' capital	$XXXX

Partnership

A partnership is also unincorporated, but it has more than one owner. Partnerships are not separate legal entities, and all partners are personally responsible for the debts of the partnership. Again, the owners' personal assets can be claimed by business creditors, so there is the same, somewhat arbitrary, distinction between business affairs and personal affairs.

The fact that there is more than one owner introduces some formality into the business. For example, there is (or should be) an agreement about how the profits of the business are to be split among the partners and about how much each partner can withdraw from the business. Because stress can develop in partnerships, states and countries have partnership laws that provide some structure if the partners do not do so themselves. A partnership's owners' equity section of the balance sheet, like that for a sole trader, does not necessarily distinguish between owners' direct contributions and retained profits. The only difference is that each owner's total capital is identified on the face of the balance sheet (or, if there are many partners, as in firms of lawyers, accountants or engineers, in a separate schedule).

Therefore, the owners' equity section of the partnership's balance sheet shows:

Owners' equity	$
Partners' capital:	
Partner A	XXXX
Partner B	XXXX
Partner C	XXXX
Total capital	XXXX

When an individual wishes to leave the partnership, it is necessary to obtain the permission of existing partners to transfer ownership to a new partner. As with sole traders, partnerships are not legal entities, but for accounting purposes they are considered as a separate entity from the partners.

Company

Companies are legal entities established under Corporations Law. The company's capital is divided into shares, and the owners are called shareholders. Companies are separate legal entities; therefore, they can buy, own and sell assets, enter into contracts in their own right, and sue and be sued.

The major advantage of a company structure is that a company has limited liability in the event of its failure. This means that shareholders are not liable for debts incurred by a company once their shares have been paid for in full; that is, their liability is limited to the unpaid amount on any shares bought. All companies that have limited liability have the word 'Limited' or 'Ltd' after their name.

Other advantages of a company structure include the ease of transfer of ownership and increased borrowing power. The shares of public companies can generally be sold freely, and transfer of ownership does not affect the continuity of operations. Stock exchanges provide a convenient means for the disposal and acquisition of shares and for making known the prices that sellers are willing to accept and that buyers are prepared to offer.

In the case of the death of a shareholder in a company, ownership of the share normally passes to the beneficiary of the deceased shareholder, without interruption to the activities of the company.

A company has available to it a number of sources of funds that are denied to a sole proprietorship or a partnership. Debentures or unsecured notes may be issued by a company. A debenture is a document that evidences an undertaking by a company to repay a particular amount at or before an agreed date, and to pay interest at an agreed rate at specified intervals. The debt may be secured by a specific charge over certain assets, or by a 'floating charge' over all the assets of the company. Highly regarded companies may

be able to obtain funds without pledging assets; that is, by the issue of unsecured notes or the acceptance of deposits.

Because of these advantages, particularly limited liability, most business organisations are companies. Even your local newsagent, chemist or corner shop is likely to have adopted a company structure.

Companies can be either public or private companies. The main difference is that public companies can invite the public to subscribe to their share capital using a document called a prospectus. A private company (denoted by 'Pty' in the name) cannot invite the public to subscribe for shares. They also have limits on the number of shareholders (maximum 50) and other restrictions on the transferability of the shares. Private companies have certain exemptions regarding requirements to provide full financial statements and the appointment of auditors.

Listed public companies are those public companies that have chosen to be listed on the Australian Securities Exchange. This listing assists trading in the company's shares and helps in the raising of funds. However, it does involve additional disclosure to the stock exchange.

Companies can be very complex; just two complexities will be mentioned here.

FORMS OF SHARE CAPITAL

People become owners of a company by buying shares that give them voting powers or other rights. When a share is first issued by a company, the money received for it is put in the company's bank account and the source of that asset is called share capital, which is an owners' equity item. If the person who paid the company for that share later sells it to someone else, the money for that sale goes to the person who owned the share, not to the company. Therefore, the company's share capital shows only the amount received by it the first time the share is sold. Most of the millions of share sales and purchases that take place on the world's stock exchanges every day have no effect on companies' balance sheet accounts for share capital, because they are trades among owners, not issues by the companies.

There are several classes of shares, including:

- *ordinary shares:* owners of these vote; they are the company's basic (residual) owners, the ones who decide who will be on the board of directors that manages the company for the owners and declares dividends to owners
- *preference shares or otherwise special shares:* owners usually do not vote, but in return they have rights, such as receiving a fixed dividend each year and, in some cases, a preference in asset distributions if the company liquidates
- *Class A, Class B and other such categorisations:* whether these are more like ordinary shares or preference shares depends on the specific rights they carry. Many companies use these vague terms because the complexity of rights often prevents a simple categorisation such as ordinary or preference.

The face of the balance sheet or the notes to the accounts will list all the kinds of shares the company is authorised to issue, specify any special rights and show the amount of share capital issued so far for each kind of share. The cash received for such share capital is the property of the company: the owners (i.e. shareholders, or stockholders as they are often also called, especially in the United States) have no right to get the money back – except in specific circumstances.

RETAINED PROFITS

Profits of a company can be paid to the owners in the form of a dividend or retained within the company. The balance sheet shows the amount of any retained profits (past profits minus past dividends) as a separate owners' equity item.

Thus, in addition to its lists of assets and liabilities, a company's balance sheet has an owners' equity section showing various legal details to assist current and future owners:

Shareholders' equity	$
Share capital:	
Class A shares (for example)	XXXX
Class B shares (for example)	XXXX
Total issued capital	XXXX
Retained profits	XXXX
Total shareholders' equity	XXXX

Items other than issued capital and retained profits may appear in a company's owners' equity. Such items reflect legal and accounting complexities that are not important at this point. These items (including reserves) will be discussed in Chapter 12.

Corporate group

Many companies you are familiar with, such as BHP Billiton, CSR, the Commonwealth Bank and Woolworths, are not single companies but are rather groups of many, often hundreds, of companies. The balance sheet of such a corporate group attempts to represent what that group looks like as a 'consolidated' economic entity, although there is no such entity legally. Doing this requires complex accounting techniques that are mostly beyond the scope of this book. The balance sheet of a corporate group looks like that of a single company, with the shareholders' equity section representing the equity of the primary, or parent, company in the group. In Chapter 10, a brief examination will be made of the assumptions behind financial statements for corporate groups. For now, remember that such consolidated financial statements are aggregates of many legally separate companies. A summary of the different kinds of business organisations is given in Exhibit A2.1.

EXHIBIT A2.1 KINDS OF BUSINESS ORGANISATIONS

Kind	Legality	Owner(s)	Equity accounts
Sole trader	Not separate from owner	One proprietor	Capital and retained profits are combined
Partnership	Not separate from owners	Several or many partners	Capital and retained profits are combined but each partner's total is calculated separately
Company	Separate from owners	Usually several or many shareholders	Legal share capital is disclosed separately from retained profits
Corporate group	Consists of legally separate companies	Usually several or many shareholders	Legal share capital of parent company is disclosed separately from retained profits

A2.2 Business financing

The balance sheet's right side lists the sources of the assets listed on its left side. As this book proceeds, many details about both sides of the balance sheet will be explained. For now, here is a list of the main sources.

Current liabilities (due within a year)

- Loans from banks due on demand or otherwise, at least potentially payable sooner rather than later.
- Financing provided by suppliers and other trade creditors by allowing the organisation to obtain credit for its purchases and pay for them later

- Wages earned by, but not yet paid to, employees and taxes withheld from them that are to be turned over to the taxation authorities
- Other amounts that will be paid in the next year related to such employee benefits as holiday pay and long service leave
- Estimates of amounts owing for things such as power, interest charges, legal costs and other debts building up, but not yet actually billed to the organisation
- Income and other taxes owed by the organisation
- Dividends owed by the organisation (if it is a company), declared by the board of directors, but not yet paid to the shareholders
- Short-term portions of longer-term debts, such as the principal payments due over the next year on long-term mortgages.

Noncurrent liabilities (debts due more than a year in the future)

- Mortgages and other debts extending over several years
- Certain long-term liabilities, such as special loans from owners in addition to their share capital, long-term tax estimates and estimated liabilities for amounts to be paid to employees in the future.

Owners' equity

- *For a sole trader:* owner's capital (contributed capital and profit not withdrawn by the owner)
- *For a partnership:* owners' capital (contributed capital and profits not withdrawn by the owners)
- *For a company:* share capital received for each kind of share plus retained profits (plus some other items if legal or accounting complexities require them).

3 The double-entry system

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 carry out transaction analysis and determine the impact of transactions on elements of balance sheets and income statements (3.1, 3.2, 3.9)

LO2 describe how debits and credits work in the double-entry accounting system (3.3)

LO3 describe the normal balance for the following types of accounts: assets, liabilities, equity, revenues and expenses (3.4)

LO4 record transactions using debits and credits (3.5, 3.6)

LO5 prepare journal entries (3.5, 3.6, 3.8)

LO6 determine the balance of an account after a series of transactions (3.7)

CHAPTER OVERVIEW

In Chapter 2 we discussed the importance of the balance sheet and income statement to managers. It is therefore critical that every manager understands the impact of transactions on these financial reports. This chapter provides those skills by extending transactional analysis, which considers the impact of specific transactions on the accounting equation. A good understanding of transactional analysis will make the rest of this book easier to follow. As well as being critical for managers and other users of accounting reports, transactional analysis is important to preparers of financial information, as it forms the basis of the double-entry system.

The double-entry system involving debits and credits – which forms the basis of modern accounting – is then described. We use this system to prepare journal entries and (via the use of spreadsheets) to prepare financial statements. Preparing financial statements by the full accounting process is left to Chapter 4. With the extended knowledge of transaction analysis, we will illustrate the differences between accrual and cash accounting.

FOR YOUR INTEREST

Below is an observation from an experienced practitioner concerning double entry:

> I personally believe that if you can't understand the debits and credits of a client's business, you can't possibly understand where issues in their business or processes can occur. It is fundamental to being a good accountant, auditor or business advisor.
>
> Fiona Campbell, Partner, Audit Services, Ernst & Young

3.1 Transaction analysis

The purpose of this section is to extend your knowledge of how various transactions affect the accounting equation. In this section we concentrate on transactions that affect the balance sheet. In section 3.2, the accounting equation is expanded to show the effect on the income statement. Transaction analysis is a useful way of understanding how any transaction or event affects a company's financial statements. LO1

Recall that the basic accounting equation is:

Assets = Liabilities + Shareholders' equity

After each transaction, the total assets must always equal the total liabilities and shareholders' equity. This equality remains regardless of the type of transaction.

To illustrate, consider the following transactions for LRM Ltd for March 2019. A summary of the effect of each of these transactions is shown in Exhibit 3.1.

1. *Shareholders invested $200 000 cash in the business*. The effect of this transaction is to increase cash (an asset) and increase share capital (a shareholders' equity account).
2. *Land and buildings were purchased for $300 000, which is financed by a loan from the seller repayable in five years*. For this transaction, land and buildings (an asset) is increased. This is financed through a loan, so loan (a liability account) is also increased. Note that this transaction does not affect shareholders' equity. The shareholders do not have any more or less equity in the company, as assets and liabilities increased by the same amount. Note that after these first two transactions the accounting equation is still in balance, as will be the case after every transaction.
3. *Inventory worth $50 000 was bought on credit*. Inventory is purchased for $50 000, with an agreement to pay the suppliers at a later date (often 30 days after the date of sale). Again, both an asset and a liability are increased. In this case inventory (asset) and accounts payable (liability).
4. *Equipment worth $90 000 was purchased by paying $20 000 cash and signing an agreement to pay the remainder in 90 days*. This involves the purchase of equipment (increase in an asset), which is financed by both paying out cash (an asset) and incurring a liability, which in this case is notes payable. Notes payable differs from accounts payable because the liability is evidenced by a promissory note or bill of exchange. Notes payable increased by $70 000. Therefore there will be an overall increase in assets of $70 000 (equipment increase of $90 000 and a cash decrease of $20 000) with liabilities increasing too by $70 000.
5. *Damaged inventory that was purchased on credit at a cost of $5000 was returned to the supplier*. This reverses part of transaction 3. The damaged inventory is returned to the supplier, thus decreasing inventory (an asset). As less money is now owed to the suppliers, accounts payable (a liability) is also reduced.
6. *Paid $30 000 on accounts payable*. This results in the liability (accounts payable) being reduced by a payment that reduces an asset (cash).
7. *Purchased $10 000 inventory using cash*. All of the above six transactions have affected both sides of the equation. However, this transaction affects only the asset side. It results in one asset (inventory) increasing

and another asset (cash) decreasing and therefore no overall change to assets. Again, after all transactions have been recorded, the accounting equation balances.

EXHIBIT 3.1

LRM LTD

ACCOUNTING EQUATION

	Assets				=	Liabilities and shareholders' equity			
	Cash	Inventory	Land and buildings	Equipment		Accounts payable	Notes payable	Long-term loan	Share capital
1	+200 000								+200 000
2			+300 000					+300 000	
3		+50 000				+50 000			
4	−20 000			+90 000			+70 000		
5		−5 000				−5 000			
6	−30 000					−30 000			
7	−10 000	+10 000							
	+140 000	+55 000	+300 000	+90 000		+15 000	+70 000	+300 000	+200 000
				$585 000	=	$585 000			

Based on the totals of the accounting equation in Exhibit 3.1, a balance sheet is produced in Exhibit 3.2. As this is a new organisation and none of the above transactions affected revenues or expenses, there is a zero balance for retained profits. Note that at this stage neither interest on the loan nor depreciation on the buildings and office equipment has been included.

EXHIBIT 3.2

LRM LTD

BALANCE SHEET AS AT 31 MARCH 2019

Assets	$	Liabilities and shareholders' equity	$
Current assets		**Current liabilities**	
Cash	140 000	Accounts payable	15 000
Inventory	55 000	Notes payable	70 000
	195 000		85 000
Noncurrent assets		**Noncurrent liabilities**	
Land and buildings	300 000	Long-term loans	300 000
Office equipment	90 000	**Total liabilities**	385 000
	390 000	**Shareholders' equity**	
		Share capital	200 000
		Retained profits	0
		Total shareholders' equity	200 000
Total assets	585 000	**Total liabilities and SE**	585 000

HOW'S YOUR UNDERSTANDING?

3A Consider the following questions:

(i) If a company receives $10 000 cash from its accounts receivable, what effect will it have on the accounting equation?

(ii) You purchase $5000 of inventory on credit. What effect will it have on the accounting equation?

(iii) Did either of the above transactions affect profit for the period?

3.2 Transaction analysis extended

We will now expand the LRM transaction analysis example in section 3.1 to include some revenue and expense transactions. LO1

To do this we will expand the accounting equation. Let's start with:

Assets = Liabilities + Shareholders' equity

Now remember: Shareholders' equity = Share capital + Retained profits

So we can re-write the equation as:

Assets = Liabilities + Share capital + Retained profits

Also remember: Retained profits = Opening retained profits + Net profit – Dividends

So we can now re-write the equation as:

Assets = Liabilities + Share capital + Opening retained profits + Net profit – Dividends

Finally you will recall: Net profit = Revenues – Expenses

So to conclude the equation is expanded to:

Assets = Liabilities + Share capital + Opening retained profits + Revenue – Expenses – Dividends

Recall from section 3.1 that, after the initial transactions were recorded, the closing balances were as follows as at 31 March 2019 for LRM Ltd:

	$
Cash	140 000
Inventory	55 000
Land and buildings	300 000
Equipment	90 000
Accounts payable	15 000
Notes payable	70 000
Loans	300 000
Share capital	200 000

Consider the following additional transactions for the month of April 2019. A summary of the effect of these transactions is provided in Exhibit 3.3.

8 *Cash sales of $30 000 were made. The cost of the goods that were sold amounted to $12 000.* This transaction has two effects: one to recognise revenue and increase assets; the other to recognise an expense and decrease assets. A cash sale of $30 000 was made. This increases a revenue account (sales revenue) and increases an asset (cash). We are also told that cost of goods sold, often abbreviated as COGS, amounted to $12 000. Cost of goods sold is what the company pays to acquire the goods that customers buy. It is not the same as sales revenue, but is rather an expense the company incurs to earn sales revenue. In this case the expense (COGS) increases by $12 000 and inventory (an asset) decreases by $12 000; that is, the goods when purchased were added to inventory, and now that they are sold, inventory is decreased.

EXHIBIT 3.3

LRM LTD

TRANSACTION ANALYSIS

	Assets					=	Liabilities + Shareholders' equity						
	Cash	Accounts receivable	Inventory	Land and buildings	Equipment		Accounts payable	Notes payable	Wages payable	Loans	Share capital	Revenues	Expenses*
Bal	+140 000		+55 000	+300 000	+90 000		+15 000	+70 000		+300 000	+200 000		
8	+30 000		−12 000									+30 000	−12 000
9		+40 000	−16 000									+40 000	−16 000
10	−8 000						−8 000						
11	−20 000												−20 000
12							+2 000						−2 000
13	+25 000	−25 000											
14									+18 000				−18 000
Total	+167 000	+15 000	+27 000	+300 000	+90 000		+9 000	+70 000	+18 000	+300 000	+200 000	+70 000	−68 000
					$599 000	=	$599 000						

*Expenses are shown as negative numbers in the transaction analysis table. Expenses are listed under the shareholders' equity section of the transaction table and you will recall that an expense will decrease net profit and therefore decrease retained profits and in turn shareholders' equity. Therefore the expenses are shown as a negative to represent the decrease in shareholders' equity.

9 *Credit sales of $40 000 were made. The COGS was $16 000.* This transaction has the same effect on the accounting equation as transaction 8, except that accounts receivable (an asset) is increased instead of cash (another asset). Because it was a credit sale, payment will be received in the future rather than now. Sales revenue and accounts receivable increase by $40 000, inventory decreases by $16 000 and cost of goods sold increases by $16 000.

10 *Payments of $8000 were made to suppliers.* In this transaction, a payment was made and therefore cash (an asset) decreases. In addition, the payment to suppliers reduces accounts payable, a liability account.

11 *Paid wages of $20 000 for the first two weeks of April.* Wages are an expense for the period. The payment of wages in this transaction increases this expense and reduces the cash account (an asset).

12 *Received an advertising invoice for $2000 for a radio advertisement broadcast on 5 April. The invoice will be paid next month.* The company receives an invoice for services that have already been provided to it. The expense should be recognised in the period when the service was received. Therefore, an expense account (advertising) will be increased by $2000 and a liability account (accounts payable) will increase by $2000, as the amount has not yet been paid.

13 *Received $25 000 from accounts receivable.* This results in one asset (cash) increasing and another asset (accounts receivable) decreasing. No revenue is recognised as that occurred earlier when the sale was made (see transaction 9).

14 *At the end of the month $18 000 is owing in wages for the last two weeks of the month. It is due to be paid on 1 May.* The employees have carried out the work but have not yet been paid because the next pay day falls on the first day of the following month. As they have done the work, an expense account (wages) increases by $18 000. Also, as the amount is owed to them, a liability account (wages payable) increases by $18 000.

Based on the totals of the columns in Exhibit 3.3, an income statement and a balance sheet were prepared, as shown in Exhibits 3.4 and 3.5. The income statement is based on the revenue and expense columns in Exhibit 3.3. The retained profits figure (same as profit for the period as there is no opening balance of retained profits and no dividends declared), together with the share capital account and the other assets and liabilities accounts, provide the information for the balance sheet.

EXHIBIT 3.4

LRM LTD

INCOME STATEMENT FOR THE MONTH ENDED 30 APRIL 2019

	$	$
Sales		70 000
Less Cost of goods sold		28 000
Gross profit		42 000
Less Operating expenses		
Wages	38 000	
Advertising	2 000	40 000
Net profit		2 000

EXHIBIT 3.5

LRM LTD

BALANCE SHEET AS AT 30 APRIL 2019

Assets	$	Liabilities and shareholders' equity	$
Current assets		**Current liabilities**	
Cash	167 000	Accounts payable	9 000
Accounts receivable	15 000	Notes payable	70 000
Inventory	27 000	Wages payable	18 000
	209 000		97 000

Noncurrent assets		**Noncurrent liabilities**	
Land and building	300 000	Loans	300 000
Office equipment	90 000	Total liabilities	397 000
	390 000	Shareholders' equity	
		Share capital	200 000
		Retained profits*	2 000
		Total shareholders' equity	202 000
Total assets	599 000	**Total liabilities and SE**	599 000

* Retained profits = opening retained profits (0) + profit (2000) − dividends declared (0) = 2000

HOW'S YOUR UNDERSTANDING?

3B What effect will the following transactions have on the accounting equation?

(i) An invoice of $300 is paid for electricity used during the current period.

(ii) Inventory costing $20 000 was sold for $30 000 on credit.

(iii) Wages of $20 000 owing to employees from last period was paid this period.

3C What, if any, was the effect on profit for the above transactions?

Reinforcing the relationship between three principal financial statements

Below is another example to work through. Work through this slowly to make sure you understand basic transaction analysis and how it impacts the three financial statements: income statement, balance sheet and statement of cash flows.

Assume all opening balances are zero.

1. Issue shares for cash, $80 000.
2. Borrow cash from the bank, $20 000.
3. Purchase inventory on credit, $35 000.
4. Sell inventory (costing $30 000) for $70 000 on credit.
5. Pay accounts payable, $20 000.
6. Receive $40 000 from accounts receivable.
7. Pay rent, $5000.
8. Pay wages of $20 000 and owe $4000 in wages at the end of the month.
9. Purchase equipment for cash, $50 000.
10. Pay dividends of $3000.

First, let's consider the full transaction analysis in Exhibit 3.6. Then in Exhibit 3.7 the headings have been condensed into Cash, Other Assets, Liabilities and Shareholders' equity to show how all this information is used to construct the balance sheet, income statement and the statement of cash flow. Take your time and follow through each transaction.

EXHIBIT 3.6

TRANSACTION ANALYSIS

	Assets				=	Liabilities + Shareholders' equity						
	Cash	Accounts receivable	Inventory	Equipment		Accounts payable	Wages payable	Loan	Share capital	Revenues	Expenses	Dividend
1	+80 000								+80 000			
2	+20 000							+20 000				
3			+35 000			+35 000						
4		+70 000	−30 000							+70 000	−30 000	
5	−20 000					−20 000						
6	+40 000	−40 000										
7	−5 000										−5 000	
8	−20 000						+4 000				−24 000	
9	−50 000			+50 000								
10	−3 000											−3 000
Total	+42 000	+30 000	+5 000	+50 000		+15 000	+4 000	+20 000	+80 000	+70 000	−59 000	−3 000
				$127 000	=	$127 000						

Note that different companies can use different account names. For example in the above analysis we have used 'wages payable', however some companies may classify this as 'accrued expenses'. This will be explained further in Chapters 4 and 5.

EXHIBIT 3.7

LRM LTD

RELATIONSHIP OF TRANSACTION ANALYSIS TO THE FINANCIAL STATEMENTS

	Cash	+ Other assets	Liabilities +	Shareholders' equity
1	80 000			80 000
2	20 000		20 000	
3		35 000	35 000	
4		70 000		70 000
4		(30 000)		(30 000)
5	(20 000)		(20 000)	
6	40 000	(40 000)		
7	(5 000)			(5 000)
8	(20 000)		4 000	(24 000)
9	(50 000)	50 000		
10	(3 000)			(3 000)
Total	42 000	85 000	39 000	88 000

Source data for cash flow statement

Source data for income statement

Source data for balance sheet

Cash flow statement*	$
Cash flow from operations[a]	(5 000)
Cash flow from investing	(50 000)
Cash flow from financing[b]	97 000
Total net cash flow	42 000

[a] (20 000) + 40 000 + (5000) + (20 000)
[b] 80 000 + 20 000 + (3000)
* While introduced in chapter 1, the Cash Flow statement will be covered further in chapter 14.

Balance Sheet

Current assets	$	Liabilities	$
Cash	42 000	Accounts payable	15 000
Accounts receivable	30 000	Wages payable	4 000
Inventory	5 000	Bank loan	20 000
Noncurrent assets		**Shareholders' equity**	
Equipment	50 000	Share capital	80 000
		Retained profits	8 000
Total	127 000	Total	127 000

Income statement	$
Revenues	70 000
– *expenses*	59 000
Net profit	11 000

Statement of Retained Profits	$
Opening retained profits	0
+ Net Profit	11 000
– Dividends	3 000
Closing retained profits	8 000

HOW'S YOUR UNDERSTANDING?

3D What impact will each of the following have on profit for the period and total assets?

(i) Purchase inventory on credit for $20 000.

(ii) Sell goods on credit for $30 000 (cost of goods sold was $14 000).

(iii) Pay accounts payable of $20 000.

(iv) Receive $30 000 from accounts receivable.

(v) Pay $10 000 for wages during the period, and owe $2000 for other work done during this period that will not be paid to next period.

(vi) Issue share capital of $50 000

(vii) Declare and pay dividends of $5000

3.3 Recording transactions: double-entry bookkeeping

The accounting equation discussed in section 3.2 is a useful technique for understanding how transactions can affect financial statements. However, it can be unmanageable when there are many accounts and a large number of transactions. A system of accounting involving debits and credits was invented centuries ago and is still used today. LO2

One way to understand this double-entry system is to start with the balance sheet. As noted in the previous section, the statement balances (this is why it is called a balance sheet); that is, the dollar value of all the resources (assets) on the left is equal to the dollar value of all the sources (liabilities and shareholders' equity) on the right. If the balance sheet is to balance, every transaction and adjustment must also balance; that is, their effects on the two sides of the statement must be equal. To reinforce the earlier discussion on transaction analysis, consider the following:

- If a resource (asset) is increased,
  - a a source (liability or equity) must be increased by the same amount; or
  - b another resource decreased by the same amount; or
  - c there must be some mixture of source increases and other resource decreases that equals the original resource's increase.

  For example, if the asset increased was inventory by $200, (a) there could be an increase in accounts payable of $200; (b) there could be a decrease in cash of $200; and (c) there could be an increase in accounts payable of $150 and a decrease in cash of $50.
- Conversely, if a resource is decreased,
  - a a source must be decreased by the same amount; or
  - b another resource increased by the same amount; or
  - c some mixture of source increases/decreases and other resource increases that equals the original resource's decrease.

  For example, if cash is the resource that decreases by $500, (a) there could be a loan decreasing by $500; (b) there could be equipment increasing by $500; and (c) there could be equipment increasing by $4500 and loan increasing by $4000.

This is just arithmetic. Double entry is a form of algebraic notation, in which an equation (the accounting equation) must be maintained.

For reasons that are now largely lost in the mists of time, increases to resources (assets), are called debits, and increases to sources (liabilities and equity), are called credits. Perhaps confusingly, decreases to resources (assets) are also called credits, and decreases to sources (liabilities) are also called debits. Financial

accounting uses only two names to cover the four kinds of effects, which will turn out to have some advantages as we learn more about the way accounting works.

Many students are initially confused by these terms, debits and credits. An analogy may assist. When you drive, you stop at red lights and go on green. This is a convention. If it had been set up the opposite way, the system would still work. However, changing the system now or doing the opposite has some disastrous effects. The same applies with debits and credits. They could have been set up the opposite way around, but they weren't.

Accounts will have a normal balance. Asset accounts have a normal balance of a debit and liabilities and shareholders' equity accounts will have a normal balance of a credit.

Consider the following summary:

Type of account	Normal balance	Increases result in	Decreases result in
Assets	Debit	Debit	Credit
Liabilities	Credit	Credit	Debit
Shareholders' equity	Credit	Credit	Debit

This can be expressed in terms of the accounting equation as follows:

Assets		=	Liabilities		+	Shareholders' equity	
Debit to increase	Credit to decrease		Debit to decrease	Credit to increase		Debit to decrease	Credit to increase

Every transaction, without exception, has two (or more) effects. One requires a debit entry and one requires a credit entry. The recording of increases to assets on the debit side and decreases on the credit side is the opposite to that of liabilities and shareholders' equity. It therefore provides the additional control on accuracy, in that the sum of the debit balances must equal the sum of the credit balances.

To understand this process, you need to be aware of some terms:

- Accounting records certain kinds of events measured in the country's currency (dollars in Australia). We will call those events *transactions*, a word used a few times already.
- Accounting's way of recording transactions is called the 'entry', and the method follows the double-entry record-keeping system described by Pacioli 500 years ago. Entries are summarised in records usually called journals, so they are also called *journal entries*.
- The entries are transferred to and summarised in accounts, which lie behind all the amounts and descriptions shown on the balance sheet. Each account has a numerical balance that is either a debit or a credit. All the accounts collected together are usually referred to as a *ledger*.
- As you know, it is important that all the accounts together produce a balanced balance sheet. Before preparing the balance sheet from the accounts, accountants usually make a list of the account balances from the ledger and make sure that the sum of all the debit balances equals the sum of all the credit balances. Because you never know for sure if it will work, this list is called the trial balance!
- Finally, the financial statements are prepared.

In this chapter, we concentrate on mastering journal entries and provide a simple spreadsheet method of maintaining account balances. The use of such tools as ledgers and trial balances is left to Chapter 4, when we describe the full accounting process.

Two simple examples of double entry

EXAMPLE 1: PURCHASING, ON CREDIT, GOODS FOR RESALE

- The resource (an asset) is an addition to the organisation's inventory (unsold products).
- The source (a liability) is that an obligation is created to pay the supplier.

If the goods cost, say, $452, we have:

- a debit of $452: an addition to the account for the resource, in this case the inventory of unsold products
- a credit of $452: an addition to the account for the source, in this case the obligation to the supplier, usually called accounts payable.

The balance sheet stays in balance because of this double entry, because both resources and sources are increased by $452:

Resources	Sources
Increased (debit) $452	Increased (credit) $452
Assets increase by $452	Liabilities increase by $452 (no change in equity)

Let's also say this transaction occurred on 1 March 2019. This transaction would be recorded as follows:

1 Mar 2019	DR	Inventory	452	
	CR	Accounts payable		452

The above is a journal entry. When recording a journal entry there are a couple of guidelines to note:

- the date should be entered first
- it is traditional to list the debits first, followed by the credits
- it is customary to abbreviate debit to DR and credit to CR
- often the credit accounts and amounts will be indented.

A journal entry may consist of one debit and one credit as in the example above; however, we will work through some more complicated examples later on where there may be a number of debits or credits. One important rule to remember is that for every journal entry:

the sum of the debits must equal the sum of the credits.

EXAMPLE 2: BORROWING MONEY FROM THE BANK ON A LONG-TERM LOAN

- The resource (an asset) is an addition to the amount of cash on hand.
- The source (a liability) is that an obligation is created to repay the bank.

If the borrowed cash is, say, $1000, we have:

- an addition to the asset 'cash', so total resources increase by $1000
- an addition to the liability 'long-term bank loan', so the total sources also increase by $1000.

Again, the balance sheet stays in balance:

Resources	Sources
Increase (debit) $1000	Increase (credit) $1000
Assets increase by $1000	Liabilities increase by $1000 (no change in equity)

Let's also say this transaction occurred on 30 March 2019. This transaction would be recorded as follows:

30 Mar 19	DR	Cash	1 000	
	CR	Bank loan		1 000

SUMMARY

These are simple examples, but they illustrate several features of the bookkeeping system. (For hundreds of years, accounting records were kept in bound books. In spite of the advent of computers, 'books' are still used by many organisations, as we will see.) Some features illustrated by the examples include the following:

- Each double-entry record names one (or more) accounts that are *debited*, and one (or more) that are *credited*. Accounts contain all the transaction records and any adjustments, and therefore reflect everything recorded in the system. The cash account, for example, lists all transactions and adjustments

that have affected cash. Accounts are used directly in preparing the balance sheet and the income statement.

- The double-entry records shown in the example are called journal entries. A journal entry can list as many accounts as are needed to record the transaction, but for *each* journal entry, *the sum of the debits must equal the sum of the credits*. If not, the accounting equation will not be maintained (the 'books' will not balance).

HOW'S YOUR UNDERSTANDING?

3E **(i)** What are the effects on the balance sheet of the following transaction? Whatzis Ltd received \$20 000 cash from a shareholder in return for \$5000 in newly issued shares and promised to pay the shareholder the other \$15 000 back at the end of three years.

(ii) What is the journal entry to record the following transaction, in which Whatzis used the cash from the shareholder? The company bought a truck, which cost \$89 000, by paying \$20 000 in cash and financing (borrowing) the rest from the truck dealer's finance company.

3.4 More about accounts

LO3 The balance sheet and the income statement are prepared from the underlying accounts, which have been recorded using the double-entry system so that the sum of the dollars in all the debit accounts equals the sum in all the credit accounts. But what is an account, exactly? Here's a working definition: *an account is a record of the dollar amounts comprising a particular asset, liability, equity, revenue or expense*. The net effect of these amounts is a debit or credit, and is called the account's balance.

Below are some examples of how account balances are calculated. Modern computerised accounting systems can produce accounts in various formats thought to be useful, but they all use the arithmetic illustrated below.

- If the organisation's cash began at \$500 and there was a receipt of \$400 and one of \$750, and a payment of \$300 and one of \$525, the cash asset account would show a balance of \$825 (a debit because there is a positive balance in this asset account).

Cash = \$500DR + \$400DR + \$750DR – \$300CR – \$525CR = \$825DR

- If share capital began at \$1000 and more shares were sold for \$400 (which, let's say, caused the cash receipt above), the share capital equity account would show a balance of \$1400 (a credit because there is a positive balance in this equity account).

Share capital = \$1000CR + \$400CR = \$1400CR

- If amounts owing to trade creditors began at \$950 and a creditor was paid \$300 (the first payment above), the accounts payable liability account would show a balance of \$650 (a credit because there is a positive balance in this liability account).

Accounts payable = \$950CR – \$300DR = \$650CR

- If a cash collection from a customer was made for \$750 (the second cash receipt above), the accounts receivable account, with a balance of, say, \$2000 before the collection, would reduce by an amount of \$750 (a credit because this reduces the accounts receivable asset, which has been transformed into cash through the collection transaction).

Accounts receivable = \$2000DR – \$750CR = \$1250DR

- If a $525 cash payment (the second cash payment above) was made on the company's bank loan, a liability account with a name like 'bank loan' would be debited with this payment. Suppose the loan had a balance of $15 000 before the payment. The account balance would then be calculated to show the deduction of the payment.

Bank loan = $15 000CR – $525DR = $14 475CR

HOW'S YOUR UNDERSTANDING?

3F (i) Garf Ltd had accounts receivable at the beginning of the year of $5290. During the year, it had revenue from sales on credit of $39 620 and collected $41 080 from its customers. What was the balance of accounts receivable at the end of the year?

(ii) Garf Ltd's net profit for this year was $2940, and it declared $900 in dividends to its shareholders during the year. Retained profits were $7410 at the beginning of the year. What is the balance of retained profits account at the end of the year?

3.5 More examples of how debits and credits work

Let's consider an example: CappuMania Ltd, a small company that operates a coffee shop on the ground floor of an office building. Exhibit 3.8 shows the company's balance sheet at the end of June 2018. LO4 LO5

EXHIBIT 3.8

CAPPUMANIA LTD

BALANCE SHEET AS AT 30 JUNE 2018

Assets	$	Liabilities and shareholders' equity	$
Current assets		**Current liabilities**	
Cash	4 000	Accounts payable	1 200
Inventory of unsold food	800	Taxes payable	600
Inventory of supplies	1 900	Total current liabilities	1 800
	6 700	**Noncurrent liabilities**	
		Loan	5 000
Noncurrent assets		**Total liabilities**	6 800
Equipment	9 000	**Shareholders' equity**	
Accumulated depreciation	(1 500)	Share capital	3 000
	7 500	Retained profits	4 400
		Total shareholders' equity	7 400
Total assets	14 200	**Total liabilities and shareholders' equity**	14 200

Now let's see how the following four transactions, all happening on 1 July 2018, are recorded using accounting's double-entry method:

1 CappuMania pays $500 of its taxes owing.

2 CappuMania buys $450 more supplies, paying $100 cash and owing the rest.

3 A shareholder is given more shares in return for personally paying $1100 on the equipment loan.

4 CappuMania buys a new coffee machine for $200 cash.

Let's look at the entries.

1 *Resource effect:* Cash is reduced. Cash is an asset, so a decrease in an asset would be a credit.

Source effect: Tax liability is reduced. A liability is reduced, so the effect would be a debit.

Entry:

1 July 2018	DR	Taxes payable (liability)	500	
	CR	Cash (asset)		500

Double-entry method: There is both a debit and a credit and the two amounts are the same.

Note that in the journal entries given in this example the terms asset, liability and equity have been included in brackets for learning purposes. This would not normally be included in a journal entry.

2 *Resource effects:* Inventory is increased by $450. It is an asset, and an increase in assets is a debit. Cash is decreased by $100 so this is a credit. Note that there are two different inventory accounts as seen in CappuMania's balance sheet. This question referred to the purchase of supplies so the inventory of supplies account is the account affected.

Source effect: The liability to suppliers is increased by $350. An increase in a liability results in a credit.

Entry:

1 July 2018	DR	Inventory of supplies (asset)	450	
	CR	Cash (asset)		100
	CR	Accounts payable (liability)		350

Double-entry method: There are both debits and credits, and the sum of the debits equals the sum of the credits. Remember an entry can have any number of debits and credits as long as the sum of each are equal. Note that this debit entry could have been achieved by two entries:

1 July 2018	DR	Inventory of supplies (asset)	100	
	CR	Cash (asset)		100
	DR	Inventory of supplies (asset)	350	
	CR	Accounts payable (liability)		350

3 *Resource effect:* None.

Source effects: The equipment loan, a liability, is decreased $1100, so this is a debit. The share capital, an equity, is increased $1100, so this is a credit.

Entry:

1 July 2018	DR	Loan (liability)	1100	
	CR	Share capital (equity)		1100

Double-entry method: This transaction affects only the sources side of the balance sheet, but the statement stays in balance because one account increases and another decreases.

4 *Resource effects:* Equipment, an asset, is increased $200, so this is a debit. Cash is decreased $200, which is a credit as in transactions 1 and 2.

Source effect: None.

Entry:

1 July 2018	DR	Equipment (asset)	200	
	CR	Cash (asset)		200

Double-entry method: This transaction also affects only one side of the balance sheet – this time, the assets side – but again the balanced entry keeps the balance sheet in balance.

These journal entries form part of the accounting cycle, which records accounting transactions. The sequences of procedures by which these transactions enter the financial statements are discussed in Chapter 4. For an illustration of how a journal entry affects the balance sheet, these entries are recorded here by adding them to, or subtracting them from, the previous (30 June) balances in the accounts. This is done in Exhibit 3.9, using a spreadsheet. Arbitrarily, the debits are recorded as positive and the credits as negative. This does not mean debits are good and credits are bad! It is simply an accounting convention.

You can see from the spreadsheet that at 30 June the total of adding all the debits and subtracting all the credits is zero. The transaction entries are in balance because the sum of the debits equals the sum of the credits. The 1 July debit balances also equal the credit balances.

EXHIBIT 3.9

CAPPUMANIA LTD

EXAMPLE IN SPREADSHEET FORM

	A	B	C	D	E	F
1						
2						
3			**30 June 2018**			**1 July 2018**
4			**Balance**		**Transactions***	**Balance**
5			**Debit or credit**	**Debits**	**Credits**	**Debit or credit**
6						
7	Cash		+4 000		(1) −500	+3 200
8					(2) −100	
9					(4) −200	
10	Inventory of unsold food		+800			+800
11	Inventory of supplies		+1 900	(2) +450		+2 350
12	Equipment		+9 000	(4) +200		+9 200
13	Accumulated depreciation		−1 500			−1 500
14	Accounts payable		−1 200		(2) −350	−1 550
15	Taxes payable		−600	(1) +500		−100
16	Loan		−5 000	(3) +1 100		−3 900
17	Share capital		−3 000		(3) −1 100	−4 100
18	Retained profits		−4 400			−4 400
19						
20	Total		0	+2 250	−2 250	0

* The numbers in brackets have been added to the spreadsheet printout to refer to the events and transactions described in the text.

It would be unlikely that another balance sheet would be prepared, just one day after the 30 June one, but to complete the example, let's see how the debit balances would also equal the credit balances, after recording the four transactions (see Exhibit 3.10).

EXHIBIT 3.10

CAPPUMANIA LTD

BALANCE SHEET AS AT 1 JULY 2018

Assets	$	Liabilities and shareholders' equity	$
Current assets		**Current liabilities**	
Cash	3 200	Accounts payable	1 550
Inventory of unsold food	800	Taxes payable	100
Inventory of supplies	2 350		1 650
	6 350	**Noncurrent liabilities**	
Noncurrent assets		Loan	3 900
Equipment	9 200	**Total liabilities**	5 550
Accumulated depreciation	(1 500)	**Shareholders' equity**	
	7 700	Share capital	4 100
		Retained profits	4 400
		Total shareholders' equity	8 500
Total assets	14 050	**Total liabilities and shareholders' equity**	14 050

HOW'S YOUR UNDERSTANDING?

3G Following on from the CappuMania example above, suppose that on 1 July 2018 a fifth transaction had occurred: CappuMania repaid $800 on its loan to the bank.

(i) What would the journal entry be for this transaction?

(ii) What would the following revised figures have been on the 1 July 2018 balance sheet: cash, current assets, total assets, total liabilities and shareholders' equity?

3.6 Debits and credits extended

LO4 LO5

In section 3.5, you saw how entries and accounts were used to record events as transactions in the double-entry accounting system. In the CappuMania Ltd example, this was limited to balance sheet accounts. In this section we will extend the debit/credit rules to revenue and expense items and other transactions that impact shareholders' equity.

To help you understand the entries, remember that to increase a shareholders' equity account you will credit that account and to decrease shareholders' equity you will debit the account.

Revenues and expenses

You will also recall that a change in profit will impact retained profits, a shareholders' equity account. An increase in revenue will increase profit and therefore shareholders' equity so the normal balance for revenue accounts is a credit. When a revenue account increases you will credit the account. An expense will decrease profit (and therefore shareholders' equity) so the normal balance for an expense account is a debit. When an expense is incurred you will debit the expense account.

Dividends and share issues

Declaring a dividend decreases retained profits. When dividends are declared, they are deducted from retained profits. Therefore, there will be a debit to retained profits because this too reduces shareholders' equity. Again note that dividends are a distribution of profits, not an expense.

Finally, when shares are issued, share capital is increased and therefore this will result in a credit to share capital.

Summary

All this produces the following table of double-entry accounting's debits and credits:

Debits	Credits
Increases in assets	Decreases in assets
Decreases in liabilities	Increases in liabilities
Decreases in equity:	Increases in equity:
Dividends declared	Issued capital
Expenses	Revenues

For completeness, the summary provided in section 3.3 is extended as shown below:

Type of account	Normal balance	Increases result in	Decreases result in
Assets	Debit	Debit	Credit
Liabilities	Credit	Credit	Debit
Share capital	Credit	Credit	Debit
Retained profits	Credit	Credit	Debit
Revenues	Credit	Credit	Debit
Expenses	Debit	Debit	Credit

Again to demonstrate this, the accounting equation can be rewritten as follows:

Assets		=	Liabilities		+	Shareholders' equity	
Debit to increase	Credit to decrease		Debit to decrease	Credit to increase		Debit to decrease	Credit to increase

The revenue and expense accounts can thus be shown as:

Revenue		Expenses	
Debit to decrease	Credit to increase	Debit to increase	Credit to decrease

Example

Let's now expand the CappuMania example from section 3.5 to bring in revenue and expense accounts to see how these are recorded using accounting's double-entry method.

To keep the example uncluttered, we group all the company's activities for the year ended 30 June 2019 into the following summary list.

1. Revenue for 2019 was $89 740. The coffee bar does mostly cash business, so of this, $85 250 was in cash and the rest was on credit.
2. General expenses for 2019, not including depreciation or income tax, totalled $67 230. Most of the expenses were on credit, for coffee supplies and so on, so of this, only $2120 was in cash.
3. At the end of the year, it turned out that unsold food on hand cost $550 and supplies on hand (mainly paper cups and plastic spoons) cost $1740. Therefore, the food inventory account has to be reduced by $250 ($800 – $550) and the supplies inventory account has to be reduced by $610 ($2350 – $1740). Using up these inventories is part of the cost of earning revenue, so these reductions will be included in the company's general expenses. We could have described these expenses here as a COGS expense and put them as a separate expense category.
4. Depreciation expense for the year was $2380.
5. The company's income tax expense for 2019 was estimated as $4460. (This is an estimate because, until the income tax authorities issue a formal assessment of tax, the company does not know for sure what its tax will be for the year.)
6. The company's board of directors declared a dividend of $1000.

Cash inflows and outflows by 30 June 2019 not already mentioned:

7 Collections of the revenue on credit totalled $3330.

8 Payments to suppliers totalled $59 420.

9 The company paid $3000 towards its income tax.

10 Only $800 of the dividend had been paid.

Here are the journal entries for the 10 items above:

			$	$
1	DR	Cash (assets increased)	85 250	
	DR	Accounts receivable (assets increased)	4 490	
	CR	Revenue (equity increased)		89 740
		Sales for cash and credit		
2	DR	General expenses (equity decreased)	67 230	
	CR	Cash (assets decreased)		2 120
	CR	Accounts payable (liabilities increased)		65 110
		General expenses		
3	DR	General expenses (equity decreased)	250	
	CR	Inventory of unsold food (assets decreased)		250
	DR	General expenses (equity decreased)	610	
	CR	Inventory of supplies (assets decreased)		610
		Using up of inventories		
4	DR	Depreciation expense (equity decreased)	2 380	
	CR	Accumulated depreciation (assets decreased)		2 380
		Depreciation of equipment		
5	DR	Income tax expense (equity decreased)	4 460	
	CR	Taxes payable (liabilities increased)		4 460
		Estimated income tax expense		
6	DR	Retained profits (equity decreased)	1 000	
	CR	Dividend payable (liabilities increased)		1 000
		Dividend declared		
7	DR	Cash (assets increased)	3 330	
	CR	Accounts receivable (assets decreased)		3 330
		Collections of accounts receivable		
8	DR	Accounts payable (liabilities decreased)	59 420	
	CR	Cash (assets decreased)		59 420
		Payments of accounts payable		
9	DR	Taxes payable (liabilities decreased)	3 000	
	CR	Cash (assets decreased)		3 000
		Payments towards income tax		
10	DR	Dividend payable (liabilities decreased)	800	
	CR	Cash (assets decreased)		800
		Payment towards dividend		

We can enter these 10 entries into the company's accounts, using the spreadsheet approach you saw in section 3.5. The resulting spreadsheet is shown in Exhibit 3.11. Note that the 1 July 2018 figures, which are what we ended up with in Exhibit 3.9, are now in the first column, as the starting figures. Some new accounts (such as accounts receivable and revenue) are needed to record the entries: the titles of these are shown in italics.

EXHIBIT 3.11

CAPPUMANIA LTD

EXAMPLE IN SPREADSHEET FORM (CONTINUED FROM EXHIBIT 3.9)

A	B	C	D	E	F
1					
2					
3		**1 July 2018 Balance**	**Events and transactions***		**30 June 2019 Trial balance**
4		**Debit or credit**	**Debit**	**Credit**	**Debit or credit**
5					
6					
7	Cash	+3 200	(1) +85 250	(2) −2 120	+26 440
8			(7) +3 330	(8) −59 420	
9				(9) −3 000	
10				(10) −800	
11	Accounts receivable	0	(1) +4 490	(7) −3 330	+1 160
12	Inventory of unsold food	+800		(3) −250	+550
13	Inventory of supplies	+2 350		(3) −610	+1 740
14	Equipment	+9 200			+9 200
15	Accumulated depreciation	−1 500		(4) −2 380	−3 880
16	Accounts payable	−1 550	(8) +59 420	(2) −65 110	−7 240
17	Taxes payable	−100	(9) +3 000	(5) −4 460	−1 560
18	*Dividend payable*	0	(10) +800	(6) −1 000	−200
19	Loan	−3 900			−3 900
20	Share capital	−4 100			−4 100
21	Retained profits	−4 400	(6) +1 000		−3 400
22	*Revenue*	0		(1) −89 740	−89 740
23	*General expenses*	0	(2) +67 230		+68 090
24			(3) +250		
25			(3) +610		
26	*Depreciation expense*	0	(4) +2 380		+2 380
27	*Income tax expense*	0	(5) +4 460		+4 460
28					
29	**Totals**	**0**	**+232 220**	**−232 220**	**0**

* The numbers in brackets have been added to the spreadsheet printout to refer to the 10 events and transactions described in the text.

You can see that everything is still in balance. The sums of the debits and credits in the 10 entries are \$232 220, and the 30 June 2019 accounts add up to zero (remember that, arbitrarily, debits are shown as positive amounts and credits as negative ones).

To highlight the calculation of profit from the expanded set of accounts, a second version of the spreadsheet is shown in Exhibit 3.12. It is the same as in Exhibit 3.11, except that the balance sheet accounts and the profit and loss accounts (part of the income statement) are now separately subtotalled. You will see that profit (the difference between the revenue and expense accounts) equals \$14 810. It is a credit, which is what equity is. Also note that, without the revenue and expense accounts, the balance sheet accounts are out of balance by the same \$14 810. In Chapter 4, you will see how these revenue and

expense accounts are closed off. A separate note will show that the profit figure will be transferred to retained profits; that is, opening retained profits plus net profit for the year minus dividend declared equals closing retained profits (4400 + 14 810 – 1000 = 18 210). A figure of $18 210 will appear as the balance of the retained profits account in the balance sheet.

EXHIBIT 3.12

CAPPUMANIA LTD

EXAMPLE IN SPREADSHEET FORM (CONTINUED) (WITH SUBTOTALS TO SHOW PROFIT CALCULATION)

A	B	C	D	E	F
39					
40					
41		**1 July 2018**			**30 June 2019**
42		**Trial balance**	**Events and transactions**		**Balance**
43		**Debit or credit**	**Debit**	**Credit**	**Debit or credit**
44					
45	Cash	+3 200	+85 250	−2 120	+26 440
46			+3 330	−59 420	
47				−3 000	
48				−800	
49	*Accounts receivable*	0	+4 490	−3 330	+1 160
50	Inventory of unsold food	+800		−250	+550
51	Inventory of supplies	+2 350		−610	+1 740
52	Equipment	+9 200			+9 200
53	Accumulated depreciation	−1 500		−2 380	−3 880
54	Accounts payable	−1 550	+59 420	−65 110	−7 240
55	Taxes payable	−100	+3 000	−4 460	−1 560
56	*Dividend payable*	0	+800	−1 000	−200
57	Loan	−3 900			−3 900
58	Share capital	−4 100			−4 100
59	Retained profits	−4 400	+1 000		−3 400
60	**Balance sheet subtotals**	**0**	**+157 290**	**−142 480**	**+14 810**
61	*Revenue*	0		−89 740	−89 740
62	*General expenses*	0	+67 230		+68 090
63			+250		
64			+610		
65	*Depreciation expense*	0	+2 380		+2 380
66	*Income tax expense*	0	+4 460		+4 460
67	**Profit and loss subtotals**	**0**	**+74 930**	**−89 740**	**−14 810**
68					
69	**Totals**	**0**	**+232 220**	**−232 220**	**0**

The company's income statement showing profit for the year is in Exhibit 3.13. The balance sheet is given in Exhibit 3.14.

EXHIBIT 3.13

CAPPUMANIA LTD

INCOME STATEMENT YEAR ENDED 30 JUNE 2019

	$	$
Revenue		89 740
Less Expenses		
General	68 090	
Depreciation	2 380	70 470
Net profit before income tax		19 270
Income tax expense		4 460
Net profit after tax		14 810

EXHIBIT 3.14

CAPPUMANIA LTD

BALANCE SHEET AS AT 30 JUNE 2019

Assets	$	Liabilities and shareholders' equity	$
Current assets		**Current liabilities**	
Cash	26 440	Accounts payable	7 240
Accounts receivable	1 160	Taxes payable	1 560
Inventory of unsold food	550	Dividend payable	200
Inventory of supplies	1 740		9 000
	29 890	**Noncurrent liabilities**	
Noncurrent assets		Loan	3 900
Equipment	9 200	**Total liabilities**	12 900
Accumulated depreciation	(3 880)	**Shareholders' equity**	
	5 320	Share capital	4 100
		Retained profits*	18 210
		Total shareholders' equity	22 310
Total assets	35 210	**Total liabilities and shareholders' equity**	35 210

* Opening balance + Net profit − Dividends declared = Closing balance (4400 + 14 810 − 1000 = 18 210)

This example has illustrated how accounting accumulates information about activities and how the financial statements are prepared from the accounts that are produced as the information is accumulated.

You can see how the two financial statements fit together (articulate) because they are both based on the double-entry accounting system. A set of accounts is created which is in balance (sum of all the debit account balances = sum of all the credit account balances).

From these accounts the income statement is produced, the bottom line (net profit after tax) of which is transferred to the statement of retained profits. The ending retained profits balance is transferred to the balance sheet, which summarises all the accounts. Refer back to Exhibit 3.7 which showed the relationship between the statements for LRM Ltd.

Activities affecting profit therefore affect the balance sheet through the double-entry system. Looking back at the entries above, for example:

- Entry 1 increased the balance sheet's assets and increased revenue on the income statement (thereby also increasing profit, which is transferred to retained profits, therefore increasing equity, which keeps the balance sheet in balance).
- Entry 2 decreased the balance sheet's assets and increased its liabilities and increased expenses on the income statement (thereby also decreasing profit, therefore decreasing equity, which keeps the balance sheet in balance).

You will see this sort of relationship among the financial statements many times. It is the basis of one of the most important uses of financial statements: analysing the financial statements in order to evaluate financial performance and financial position.

HOW'S YOUR UNDERSTANDING?

3H **(i)** At the end of 2018, Hinton Hats Ltd had retained profits of $29 490. During 2019, it had revenue of $112 350, general expenses of $91 170, depreciation expense of $6210 and income tax expense of $3420. Dividends of $5000 were declared during 2019. What was the balance of retained profits at the end of 2019?

(ii) If the company paid $1200 cash for the rent on its shop for the last month of 2019, what would this event do to: assets, liabilities, profit for 2019, retained profits and equity?

3.7 Arranging accounts on the balance sheet

LO6 In the Sound and Light example (Chapter 2) and the CappuMania example (this chapter), you saw that accounts were organised into the statement's main categories: current assets, noncurrent assets, current liabilities, noncurrent liabilities and shareholders' equity. This was done because the arrangement of accounts is meant to convey information beyond the account balances themselves. The placement of each account tells the reader of the balance sheet what kind of account it is: a short-term asset or a long-term one; a short-term liability or a long-term one; or an equity. This enables the calculation of meaningful ratios and other analyses. The balance sheet is said to be classified, because accounts are classified into meaningful categories. This means that the accountant preparing the balance sheet has to look into an account with a title like 'bank loan', for example, and determine whether it should be included in current liabilities or noncurrent liabilities. Moving items around within the balance sheet (or within other financial statements) is called reclassification, and is done by accountants whenever it is thought to improve the informativeness of the financial statement.

Three examples of account classification

CURRENT AND NONCURRENT PORTIONS OF NONCURRENT LIABILITIES

Many noncurrent liabilities, such as mortgages and bonds, require regular payments, so although most of the debt is noncurrent, not all of it is. Accountants therefore reclassify the amount to be paid on the principal of the debt within the next year into current liabilities, and show only the residual (due more than a year away) as noncurrent. Any interest owing but not yet paid would be treated as a separate liability; if it is due to be paid within the year it is a current liability.

For example, let's say a company has a loan of $80 000 and is expected to repay the bank $10 000 (excluding interest) within the next year. Then the company would have a current liability of $10 000 and a noncurrent liability of $70 000 on the balance sheet.

Also, while accounts payable is normally a current liability (payable within one year), if some accounts are not payable within the next year then accounts payable will also be listed under noncurrent liabilities.

BANK OVERDRAFTS

Suppose a company has a bank overdraft of $500, which means that its cash-in-bank asset is negative (the bank has allowed the company to remove $500 more cash from the account than there was in it, in effect lending the company the $500).

For bank overdrafts, it is customary to move the negative bank amount to the other side of the balance sheet. Even if the company normally has cash in the bank so that the account is normally an asset, the account is a liability at this point because the bank has, in effect, lent the company $500 and will want the money back. In this case you would see a bank overdraft listed as a current liability.

NEGATIVE AMOUNTS LEFT AS DEDUCTIONS

Some negative amounts are left as deductions, not moved to the other side to make them positive as was done with the overdraft. Accumulated depreciation is an important example of a negative-balance account. In practice, this is often called a contra asset and is discussed further in Chapter 5. It is the amount of all the depreciation calculated to date on assets such as buildings and equipment. For accumulated depreciation, there are at least two appropriate ways of presenting the information, all of which maintain the balance sheet equation:

1. It could be disclosed separately as a deduction on the asset side of the balance sheet, as was used in the CappuMania balance sheet. This is sometimes used, but if there are a lot of different kinds of assets and depreciation amounts, it can make the balance sheet a little cluttered.
2. It could be deducted from the assets' cost, and just the net book value could be disclosed on the balance sheet, so that accumulated depreciation is not mentioned on the face of the statement. This method, which is most common, would be accompanied by a note to the financial statements, listing the cost and accumulated depreciation amounts separately, so keeping the balance sheet uncluttered and allowing some additional explanations of the figures if that were thought useful. This approach can be seen in the Sound and Light balance sheet in Chapter 2.

HOW'S YOUR UNDERSTANDING?

3I Prepare the asset side of a balance sheet for Mike's Tyre Repair Ltd from the following amounts: cash on hand $90, accounts receivable $640, inventory $210, equipment cost $890 and accumulated depreciation on equipment $470.

3.8 More journal entries

You will discover further in Chapter 4 that the accounting process is reasonably mechanical once you have created your journal entries. Creating journal entries is critical to your general understanding of accounting. The better you understand this (and the earlier sections that gave you the knowledge to do this section), the easier you will find the rest of the course. A few extra hours on this material will save you many more hours later in this subject and subsequent subjects. LO5

Let's go back to the LRM example from sections 3.1 and 3.2 and prepare the journal entries. The 14 transactions are repeated here for convenience.

1. Shareholders invest $200 000 cash in the business.
2. Land and building is purchased for $300 000, which is financed by a loan from the seller repayable in five years.
3. Inventory worth $50 000 is bought on account.

4 Equipment worth $90 000 is purchased by paying $20 000 cash and signing an agreement to pay the remainder in 90 days.

5 Damaged inventory that was purchased on credit at a cost of $5000 was returned to the supplier.

6 $30 000 is paid on accounts payable.

7 $10 000 of inventory is purchased using cash.

8 Cash sales of $30 000 were made. The cost of the goods that were sold amounted to $12 000.

9 Credit sales of $40 000 were made. The cost of goods sold was $16 000.

10 Payments of $8000 were made to suppliers.

11 Paid wages of $20 000 for the first two weeks of April.

12 Received an advertising invoice for $2000 for a radio advertisement broadcast on 5 April. The bill will be paid next month.

13 Received $25 000 from accounts receivable.

14 At the end of the month, $18 000 is owing in wages for the last two weeks of the month. It is due to be paid on 1 May.

Below are the relevant journal entries and the reasons for the debit and credit entries. Before looking at these journal entries, try to do them yourself. If you are not getting them correct, go back to sections 3.1 and 3.2 for further detail on how the transactions affect the specific accounts.

JOURNAL ENTRIES FOR LRM LTD

			$	$
1	DR	Cash	200 000	
	CR	Share capital		200 000
		Cash (asset) increases; share capital (shareholders' equity) increases		
2	DR	Land and buildings	300 000	
	CR	Long-term loan		300 000
		Land and buildings (asset) increases; long-term loan (liability) increases		
3	DR	Inventory	50 000	
	CR	Accounts payable		50 000
		Inventory (asset) increases; accounts payable (liability) increases		
4	DR	Equipment	90 000	
	CR	Cash		20 000
	CR	Notes payable		70 000
		Equipment (asset) increases; cash (asset) decreases; notes payable (liability) increases		
5	DR	Accounts payable	5 000	
	CR	Inventory		5 000
		Accounts payable (liability) decreases; inventory (asset) decreases		
6	DR	Accounts payable	30 000	
	CR	Cash		30 000
		Accounts payable (liability) decreases; cash (asset) decreases		
7	DR	Inventory	10 000	
	CR	Cash		10 000
		Inventory (asset) increases; cash (asset) decreases		

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8	DR	Cash	30 000	
	CR	Sales revenue		30 000
	DR	Cost of goods sold	12 000	
	CR	Inventory		12 000
		Cash (asset) increases; sales revenue (revenue) increases; COGS (expense) increases; inventory (asset) decreases		
9	DR	Accounts receivable	40 000	
	CR	Sales revenue		40 000
	DR	Cost of goods sold	16 000	
	CR	Inventory		16 000
		Accounts receivable (asset) increases; sales revenue (revenue) increases; COGS (expense) increases; inventory (asset) decreases		
10	DR	Accounts payable	8 000	
	CR	Cash		8 000
		Accounts payable (liability) decreases; cash (asset) decreases		
11	DR	Wages expense	20 000	
	CR	Cash		20 000
		Wages expense (expense) increases; cash (asset) decreases		
12	DR	Advertising expense	2 000	
	CR	Accounts payable		2 000
		Advertising expense (expense) increases; accounts payable (liability) increases		
13	DR	Cash	25 000	
	CR	Accounts receivable		25 000
		Cash (asset) increases; accounts receivable (asset) decreases		
14	DR	Wages expense	18 000	
	CR	Wages payable		18 000
		Wages expense (expense) increases; wages payable (liability) increases		

HOW'S YOUR UNDERSTANDING?

3J Which of the following transactions would increase or decrease profit in June?

- (i) Credit sales of $500 in June with cash received in August.
- (ii) Received $300 cash in June from accounts receivable at the end of May.
- (iii) Received an electricity bill in June for $160 which relates to electricity used in June; the bill will be paid in July).

3.9 Cash versus accrual accounting revisited

LO1

In Chapter 1 you learnt that the predominant method of accounting is called accrual accounting. It is used by all large businesses, and in the last two decades has also been used by public sector organisations and not-for-profit organisations. Under an accrual accounting system, the impact of transactions is recognised in the period when revenues and expenses occur – which may or may not be the same period in which the cash is received. For example, a cash sale of $1000 would increase both sales revenue and cash (increase cash; increase sales revenue). However, a credit sale of $1000 in May with cash collected in July would increase

sales revenue in May (increase accounts receivable; increase sales revenue), but not increase cash until July. When the money is received in July, cash would increase but it would have no impact on revenue (increase cash; decrease accounts receivable).

Figure 3.1 summarises the way accrual financial accounting information is assembled, and gives examples.

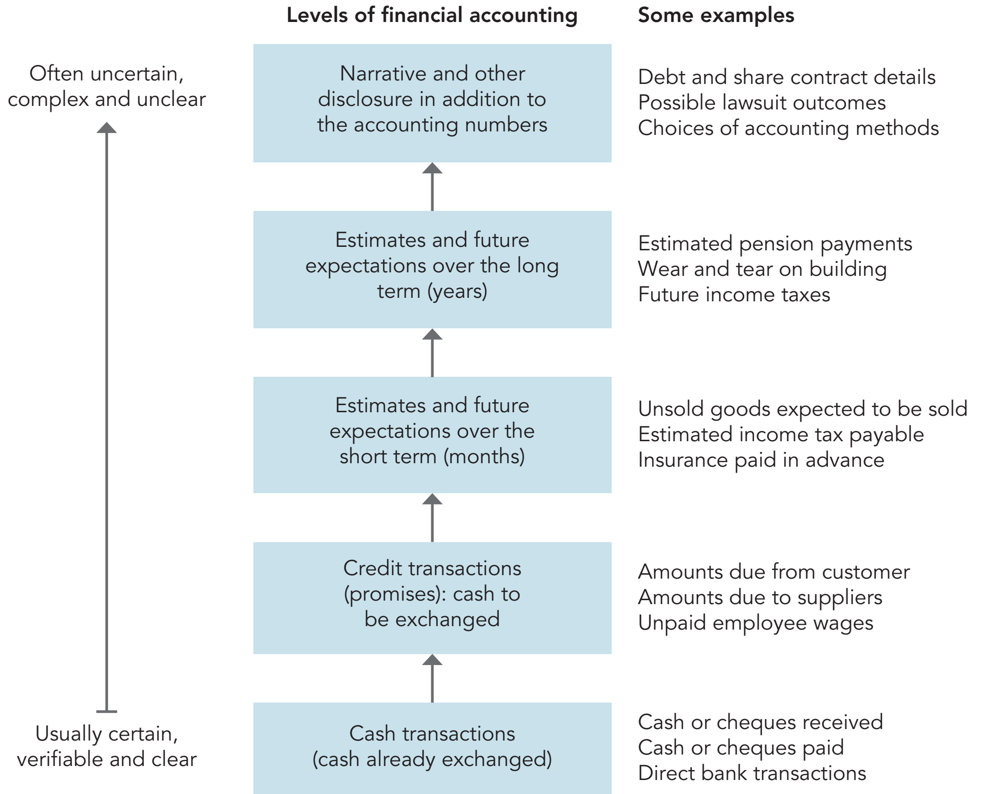

FIGURE 3.1 Levels of accrual accounting

- The foundation is cash transactions, which even the simplest accounting records include.
- Most accounting systems also include credit transactions, because most organisations extend credit to customers and/or use credit from their suppliers and employees.
- Short-term and long-term adjustments are needed in preparing financial statements, unless the company's accounting system is sophisticated enough to have already built them in (some are, though there are always new issues to be dealt with as the world keeps changing).
- Extensive narrative and supplementary disclosures (especially the notes to the financial statements) are made, sometimes using many more pages than the statements themselves do.

The result is that accrual accounting is a very complex information system, and it will take the rest of this book to introduce you to it properly. However, now that you have covered transaction analysis, it should start to become easier to follow.

So let's review some key points about accrual accounting.

- Revenue is recognised in the period in which the good is delivered or the service is provided. Revenue can be recorded *regardless of when* cash is received.
- Cash can be received in the same period as revenue is recognised (e.g. cash sales).
- Revenue can be recognised in one period, and the cash is not received until the following period (e.g. credit sales).

- Cash can be received in one period, but the service is not provided until a later period and, therefore, revenue will not be recognised until the later period (e.g. customer pays a deposit on services to be provided in a later period).
- Expenses are recognised in the period in which the expense is incurred. *Again this is regardless of when cash is paid*. For example, if an employee works 10 days in a month and the wage rate is $200 a day, the expense is $2000 for the month. This is regardless of whether all or part of the $2000 is paid in this month, a future month or a previous month.

HOW'S YOUR UNDERSTANDING?

3K Fred started his delivery business a few years ago. This year, he collected $47 000 from his customers and paid $21 000 in expenses. At the beginning of this year, his customers owed $3500 and he owed his suppliers $700. At the end of this year, his customers owe him $3200; he owes his suppliers $1450; and his truck depreciation for the year was $4600. Using just this information:

(i) What is this year's cash profit?

(ii) What is this year's accrual profit?

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Transaction analysis and preparation of financial statements

Flashy Fashions Ltd is a small company in a coastal town. It rents its premises and its sales are all on credit. It has only three expenses: cost of goods sold, rent and income tax.

At the end of its previous financial year, 30 September 2018, Flashy's balance sheet was as follows:

FLASHY FASHIONS LTD
BALANCE SHEET AS AT 30 SEPTEMBER 2018

Assets	$	Liabilities and shareholders' equity	$
Current assets		**Current liabilities**	
Cash	800	Accounts payable	600
Accounts receivable	400	Rent payable	700
Inventory	900		
		Shareholders' equity	
		Share capital	300
		Retained profits	500
Total assets	2 100	**Total liabilities and shareholders' equity**	2 100

During the year ended 30 September 2019, the following information was recorded in the company's accounts.

a Revenue from credit sales $10 000.
b Collections from customers $9600.
c Purchases on credit of inventory for sale $6100.
d Payments to suppliers $6300.
e Cost of goods sold $6400.
f Rent charged by the landlord $2400.
g Rent paid to the landlord $2900 (decreasing the liability).
h Income tax payable for the year $350.
i Cash dividends declared and paid to shareholders $450.

Required:

1 Prepare transaction analysis for each of the above items.
2 Prepare an income statement and a balance sheet.

PRACTICE PROBLEM B

Complete the expanded accounting equation

Calculate the missing figure in each of the following situations:

	Current assets	Noncurrent assets	Current liabilities	Noncurrent liabilities	Share capital	Opening retained profits	Revenue	Expense	Dividend
1	50 000	200 000	25 000	50 000	?	5 000	25 000	15 000	0
2	150 000	600 000	75 000	150 000	450 000	30 000	150 000	?	0
3	150 000	600 000	75 000	150 000	450 000	120 000	135 000	?	0
4	?	250 000	25 000	50 000	250 000	50 000	45 000	30 000	0

PRACTICE PROBLEM C

Transaction analysis and journal entries

Below is the summarised balance sheet for Newcombe Ltd as at 31 May 2019.

Assets	$	Liabilities and shareholders' equity	$
Cash	90 000	Accounts payable	110 000
Accounts receivable	106 000	Long-term loan	240 000
Inventory	118 000	Share capital	200 000
Prepayments	45 000	Retained profits	84 000
Equipment	400 000		
Accumulated depreciation	(125 000)		
	634 000		634 000

The following transactions occur during June:

a Received $23 000 from accounts receivable.
b Additional shares worth $80 000 are issued.
c Inventory (costing $32 000) is sold on credit for $76 000.
d Recognition of $4000 of depreciation expense.
e Of the loan, $60 000 is repaid.
f Administrative expenses of $7000 are paid.
g A total of $9000 of prepayments are used up.
h Payment of wages of $13 000.
i Purchase of $28 000 worth of inventory for cash.
j Dividends of $6000 are paid.
k Payment of $36 000 of accounts payable.

Required:

1 Show the effect of each of the above transactions on the accounting equation.
2 Prepare an income statement for the month of June and a balance sheet for Newcombe Ltd at 30 June 2019.
3 For each of the above transactions, what is the effect on net profit, total assets, total liabilities and shareholders' equity? Write 'increase', 'decrease' or 'no effect' for each transaction.
4 Prepare journal entries for each of the 11 transactions above.

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 If an asset increases, list what else may have happened to the accounting equation.
2 Which of the following is not possible?
 a One liability increases and another liability increases.
 b Shareholders' equity increases and liabilities decrease.
 c Assets increase and liabilities decrease.
3 Why does an increase in revenues result in an increase in shareholders' equity? What other part of the accounting equation is likely to be affected?
4 Why does an increase in expenses result in a decrease in shareholders' equity? What other part of the accounting equation is likely to be affected?
5 Give three examples of an asset that could decrease when an expense is increased.
6 Which accounts normally have a debit balance and which normally have a credit balance?
7 Explain how the balance sheet and the income statement relate to each other.
8 List some of the larger expenses you would expect to see in the income statements for the following organisations:
 a Woolworths
 b Commonwealth Bank
 c Red Cross
 d Royal Australian Navy

PROBLEMS

PROBLEM 3.1

Transactions impacting balance sheet accounts

Provide an example of a transaction where:
1 one asset increases and another asset decreases
2 an asset increases and a liability increases
3 an asset increases and shareholders' equity increases
4 shareholders' equity increases and liabilities decrease
5 an asset decreases and a liability decreases
6 one liability increases and another liability decreases
7 an asset decreases and shareholders' equity decreases.

PROBLEM 3.2

Transactions impacting balance sheet and income statement accounts

Provide illustrations of the following transactions relating to a local retailer:
1 One asset is exchanged for another.
2 An asset and a liability increase by the same amount.
3 An asset and revenue increase by the same amount.
4 One liability is exchanged for another.
5 An asset and a liability are reduced by the same amount.

6 A liability and an expense are increased by the same amount.
7 An asset and shareholders' equity are increased by the same amount.
8 An asset is reduced and an expense is increased by the same amount.

PROBLEM 3.3

Effect of transactions

The following transactions occurred for Marsh Ltd (assume all beginning balances = 0) during the year ended 31 December 2019.

a Issued shares for $50 000 cash.
b Purchased $40 000 of inventory; paid $15 000 cash with the remainder on account.
c Sold $400 000 of products to customers on account; cost of products was $240 000.
d Collected $120 000 cash from customers in point (c).
e Paid $50 000 in wages to employees during the year; at year-end wages of $8000 are owed to employees for work done in December 2019, to be paid in 2020.
f Earned $10 000 interest on investments, receiving 70 per cent in cash.
g Received an electricity bill in December 2019 for $4000 covering electricity charges for December 2019. The bill will be paid in January 2020.
h Paid $20 000 cash for supplies received during 2019. At year-end $7000 of supplies were still on hand (i.e. had not been used up).
i Declared and paid $10 000 in cash dividends to shareholders.

For each of the above transactions, events or facts, indicate the impact on revenues, expenses, assets and liabilities during 2019 by placing a + or – sign (+ for increase and – for decrease) to indicate direction in the appropriate box. Include dollar amounts. Write NE if there is no effect.

	Revenues	Expenses	Assets	Liabilities
a				
b				
c				
d				
e				
f				
g				
h				
i				

PROBLEM 3.4

Complete the expanded accounting equation

Calculate the missing figure in each of the following situations:

	Current assets	Noncurrent assets	Current liabilities	Noncurrent liabilities	Share capital	Opening retained profits	Revenue	Expenses	Dividends
1	100 000	400 000	50 000	100 000	?	10 000	50 000	30 000	0
2	100 000	400 000	50 000	100 000	300 000	20 000	100 000	?	0
3	100 000	400 000	50 000	100 000	300 000	80 000	90 000	?	0
4	?	500 000	50 000	100 000	500 000	100 000	90 000	60 000	0
5	100 000	400 000	50 000	100 000	300 000	20 000	100 000	50 000	?
6	100 000	500 000	50 000	100 000	300 000	?	100 000	50 000	20 000

PROBLEM 3.5

Ascertain the unknowns in the accounting equation

Find the unknowns for Racer Ltd given the following information:

	$m		$m
Assets 1 July 2018	600	Assets 30 June 2019	?
Liabilities 1 July 2018	?	Liabilities 30 June 2019	300
Share capital 1 July 2018	180	Share capital 30 June 2019	190
Retained profits 1 July 2018	200	Retained profits 30 June 2019	?
Revenues for the year	950		
Expenses for the year	800		
Dividends	50		

PROBLEM 3.6

Transaction analysis – revenue and expenses

LM started business on 1 July 2019, and had the following transactions on 1 July:

a Issued 250 000 shares of $2 for $500 000 cash.

b Bought $50 000 worth of inventory on credit.

c Bought equipment for $300 000, paying cash. The equipment has a 10-year life.

d Paid $6000 for a year's rent on a building.

e Took out a four-year $120 000 bank loan at an interest rate of 5 per cent per annum. The interest is not payable until the end of the loan.

Between 1 July and 31 December, the following transactions occurred:

f Sold inventory that cost $45 000 for $95 000. All sales were on credit.

g Paid $30 000 to suppliers of inventory for the credit purchases in point (b), above.

h Collected $50 000 from customers.

i Paid salaries of $18 000.

j Received $5500 for a job to be completed in February 2020.

On 31 December:

k Salaries of $4000 were owing to staff.

l Owed $5000 by the bank for interest.

Required:

For the period 1 July to 31 December 2019:

1 List all revenues (including dollar amounts) that will appear in the income statement.

2 List all expenses (including dollar amounts) that will appear in the income statement.

PROBLEM 3.7

Identifying account titles

Below are some independent hypothetical situations.

1 A company borrows $25 000 from the local bank and signs a six-month note for the loan.

2 A company purchases 500 ordinary shares of Woolworths Limited for $15 000.

3 A company purchases a block of land for $400 000 cash. An appraiser for the buyer valued the land at $425 000.

4 A company buys three mobile phones for office use, for which it signs a note promising to pay $1500 within six months.

5 A company signs a lease agreement for a warehouse; the rent is $15 000 per month. Upon signing the document, the retailer pays $45 000 to the owner of the building (assume no security deposit).

6 A company purchases a new delivery truck for $63 000 cash that has a list price of $69 000.

7 A company acquires a patent on a new digital technology, paying $300 000 cash and signing a $600 000 note payable due in two years.

Indicate the appropriate account titles, if any, affected by each of the events described above. Answer in terms of changes in account balances (increase/decrease). Include the dollar amount.

PROBLEM 3.8

Identifying account titles

Below are some transactions for a retailer.

1 The company orders 20 display stands for $300 each, to be delivered next month.
2 The company repays $4000 principal on its loan (ignore interest).
3 The company sells 100 000 shares for $12 per share to investors.
4 The company signs a contract for construction of a new residential building for $600 000 and pays $50 000 as the initial payment for construction.
5 The company hires a new CFO. The CFO's remuneration package includes salary of $300 000 per annum plus superannuation. The CFO starts work in two months' time.
6 The company purchases a well-established brand name for $170 000 cash.

Indicate the appropriate account titles, if any, affected by each of the events described above. Answer in terms of changes in account balances (increase/decrease). Include the dollar amount.

PROBLEM 3.9

Normal balances of accounts

What would be the normal balance (DR or CR) for each of the following account titles?

1 Accounts receivable
2 Accounts payable
3 Inventory
4 Provision for employee entitlements
5 Taxes payable
6 Retained profits
7 Share capital
8 Investments
9 Plant and equipment
10 Accrued expenses
11 Prepayments

PROBLEM 3.10

Transaction analysis

The following transactions pertain to Rosewall Ltd for November 2018.

1 The company was incorporated, with shareholders investing $250 000 in cash.
2 Purchased $43 000 worth of inventory on credit.
3 Rent of $8000 was paid.
4 Made credit sales of $110 000 (COGS was $45 000).
5 Received the $2000 bill for an advertising campaign to promote the new company. This amount will be paid in December.
6 Inventory was purchased for $27 000 cash.
7 Paid $30 000 of accounts payable.
8 Wages of $24 000 were paid (wages expense).
9 Received $45 000 from accounts receivable.
10 Sales commission was paid at the rate of 1 per cent of total monthly sales.

11 Purchased new machinery at a cost of $9000. Of this, $4000 was paid in cash with the remainder to be paid in 15 months' time.
12 Owed employees $3500 in wages at the end of November.
13 Depreciation on the new equipment equalled $1000.
14 Interest of $6000 is owed by the bank at the end of November. It will be received in January 2019.
15 Received $8000 from a client. Services to the client will be provided in December.
16 Several investors sold $20 000 of their shares to other investors.

Show the effect of each of the above transactions on the accounting equation.

PROBLEM 3.11

Account classification and DR/CR rules

Peanut Limited is an agricultural company. The following are accounts from a balance sheet for the year ended 30 June 2020 of Peanut Limited.

1 Property, plant and equipment
2 Interest-bearing liabilities (long-term)
3 Inventories
4 Retained profits
5 Cash and cash equivalents
6 Provisions (long-term)
7 Current tax liabilities
8 Trade and other receivables
9 Intangible assets
10 Trade and other payables (short-term)
11 Machinery
12 Share capital.

For each account, indicate how it normally should be categorised on a classified balance sheet. Also show whether the account normally has a debit (DR) or credit balance (CR).

PROBLEM 3.12

Prepare simple journal entries

Prepare journal entries for the following transactions in December 2019.

1 Borrowed $80 000 cash from the bank with an agreement to pay back the loan in 4 years with interest of 10 per cent per annum.
2 Purchased inventory costing $32 000 with cash.
3 Purchased additional inventory costing $15 000 on credit.
4 Received an $8000 deposit on a rental property to be rented for the month of January 2020.
5 Sold inventory costing $16 000 to customers for $29 000 on account.
6 Received $11 000 from a customer in question 5.
7 Paid $5000 owing to a supplier.

PROBLEM 3.13

Complete transaction analysis and prepare financial statements

The following transactions occurred for the month of November 2019 for Hoad Ltd:

a The company was incorporated, with shareholders investing $200 000 in cash.
b Purchased inventory for cash, $20 000.
c Paid $4000 for a month's rent on the premises.
d Purchased inventory on credit, $30 000.
e Received an advertising bill for a newspaper advertisement to promote the new company. The $1000 bill will be paid in December.

f Inventory with a cost of $40 000 was sold on credit for $90 000.
g Paid $25 000 of accounts payable.
h Received $30 000 from accounts receivable.
i Paid wages of $15 000.
j Paid sales commission at the rate of 1 per cent on sales made during the month.
k Purchased a new computer for $6000; paid $3000 in cash and $3000 to be paid in 15 months time.
l Owed employees $2000 in wages at the end of the month.

Required:

1 Show the effect of each of the above transactions on the accounting equation.
2 Prepare an income statement and a balance sheet at 30 November 2019.
3 Prepare journal entries for each transaction and determine the balance for each account.
4 For each transaction a to l, what is the effect on net profit and total assets? Write 'increase', 'decrease' or 'no effect' for each transaction.

PROBLEM 3.14

Prepare journal entries and a balance sheet from simple transactions

North Shore Manufacturing Ltd had this balance sheet:

BALANCE SHEET AS AT 30 JUNE 2019

Assets	$	Liabilities and shareholders' equity	$
Current assets		**Current liabilities**	
Cash	20 000	Accounts payable	80 000
Accounts receivable	70 000	Taxes payable	20 000
Inventories	110 000	Wages payable	10 000
	200 000		110 000
Noncurrent assets		**Noncurrent liabilities**	
Land	200 000	Long term loan	200 000
Plant and equipment	400 000	Provision for employee entitlements	100 000
Accum. depreciation	(100 000)		300 000
	500 000	**Shareholders' equity**	
		Share capital	200 000
		Retained profits	90 000
			290 000
	700 000		700 000

During July 2019, North Shore Manufacturing experienced the following transactions:

a An amount of $8000 of accounts payable was paid.
b A customer paid one of the accounts receivable, $13 280.
c Additional inventory costing $8000 was purchased on credit.
d The company issued new shares for $50 000 cash.
e The proceeds of the share issue were used to reduce the long-term loan.
f More land costing $54 000 was purchased for $14 000 cash plus a new long-term loan for the rest.
g More equipment costing $33 900 was purchased on credit, with $13 900 due in two months and the remainder as a long-term loan.

Required:

1 Prepare journal entries for each transaction.
2 Prepare a new balance sheet for the company as at 31 July 2019.

PROBLEM 3.15

Complete transaction analysis and show effect on net profit/total assets

A summarised balance sheet for Roche Ltd at 31 August 2019 was as follows:

Assets	$	Liabilities and shareholders' equity	$
Cash	110 000	Accounts payable	210 000
Accounts receivable	410 000	Long-term loan	310 000
Inventory	610 000	Share capital	910 000
Prepayments	80 000	Retained profits	250 000
Equipment	610 000		
Accumulated depreciation	(140 000)		
	1 680 000		1 680 000

The following transactions occurred during September:

- a Paid $100 000 of accounts payable.
- b Received $300 000 from accounts receivable.
- c Purchased inventory on credit for $200 000.
- d Made credit sales of $700 000 (COGS was $450 000).
- e Administrative expenses of $30 000 were paid in cash.
- f Depreciation of $10 000 was recognised.
- g Prepayments of $10 000 expired during the month.
- h Dividends of $20 000 were declared and paid.
- i Paid back $100 000 on the loan.
- j Issued additional shares worth $500 000.
- k Paid the wages bill of $50 000.

Required:

1. Show the effect of the above transactions on the accounting equation using a transaction analysis table.
2. Prepare journal entries for each transaction and determine the balances of the accounts.
3. What is the effect on net profit and total assets? Write 'increase', 'decrease' or 'no effect' for each transaction and include dollar amounts.

PROBLEM 3.16

Identify debit and credit balances, and prepare a balance sheet

BML Products Ltd manufactures and sells children's toys. Here are the company's balance sheet accounts as at 30 June 2019, in alphabetical order.

	$		$
Accumulated depreciation	63 700	Owing from customers	6 200
Bank account balance	14 300	Owing to suppliers	21 900
Bank loan	21 200	Retained earnings	47 500
Building	102 100	Share capital issued	25 000
Cash on hand	2 500	Short-term part of mortgage	8 000
Employees' tax not yet remitted	600	Unpaid employee wages	1 800
Fixtures and equipment	37 900	Unsold finished products	29 600
Land	48 000	Unused office supplies	1 400
Long-term part of mortgage owing	71 000	Unused product raw materials	18 700

Required:

1 Decide which accounts have debit balances and which have credit balances. According to the company's accounting system, total debits = total credits = $260 700.
2 Based on your answer to question 1, prepare the company's 30 June 2019 balance sheet from the above accounts.
3 Rewrite the balance sheet using account titles that you are more likely to see in actual financial statements.
4 Comment briefly on the company's financial condition, as shown by the balance sheet.

PROBLEM 3.17

Explain and write entries for changes in account balances

Here are some account changes that have occurred to Rose Ltd. For each of the items, write in a few words what would have caused the changes and write a journal entry to account for them.

1 Accounts receivable up $50 000; service revenue up $50 000.
2 Wages expense up $2000; cash down $10 000; wages payable down $8000.
3 Accounts payable up $4000, inventory up $4000.
4 Cash down $6000, loan down $6000.
5 Cash up $500, revenue received in advance up $500.
6 Auditing expense up $3000, accounts payable up $2400, cash down $600.
7 Equipment up $5200, share capital up $5200.
8 Cash up $2400, accounts receivable up $6600, revenue up $9000, inventory down $4800, COGS expense up $4800.

PROBLEM 3.18

Prepare journal entries

DRAGONS LTD
BALANCE SHEET AS AT 30 JUNE 2018

Assets	$	Liabilities and shareholders' equity	$
Current assets		**Current liabilities**	
Cash	14 000	Accounts payable	12 000
Accounts receivable	36 000	Tax payable	6 000
Inventory	42 000		
		Shareholders' equity	
		Share capital	40 000
		Retained profits	34 000
	92 000		92 000

During the year ended 30 June 2019, the following information was recorded in the company's accounts:

1 Credit sales, $200 000.
2 Cash sales, $6000.
3 Collections from customers, $150 000.
4 Purchases of inventory on credit, $70 000.
5 Payments of accounts payable, $50 000.
6 Cost of goods sold, $80 000.
7 Wages expense, $90 000, not yet paid.
8 Wages paid, $22 000.
9 Paid tax payable, $6000.
10 Cash dividends of $20 000, declared and paid.

Required:
Prepare journal entries, an income statement for the year ended 30 June 2019 and a balance sheet as at 30 June 2019.

PROBLEM 3.19

Prepare a statement of retained profits

The accounts for Australian RST Limited for 30 June 2019 included the following (in alphabetical order):

	$000
Dividends declared & paid	49 444 DR
Income tax expense	571 DR
Operating profit before tax	58 884 CR
Retained profits, beginning of year	35 697 CR

Prepare a statement showing closing retained profits.

PROBLEM 3.20

Calculate profit and prepare a statement of retained profits

The accounts for Katherine Ltd for last year included the following (in alphabetical order):

	$
Dividends declared & paid	75 000 DR
Income tax expense	210 250 DR
Miscellaneous revenue from investments	7 950 CR
Operating expenses	2 103 170 DR
Retained profits, beginning of year	260 090 CR
Revenue from sales	3 219 400 CR

Calculate net profit, and prepare a note to show the change in retained profits for the year.

PROBLEM 3.21

Cash balance and accrual accounting profit

Using the following information for David Tours, calculate:

1 the cash in bank as at the end of 2019
2 the 2019 accrual accounting profit.

	$
Owing from customers as at the end of 2018 (collected in 2019)	1 000
Owing from customers as at the end of 2019 (collected in 2020)	850
Cash collected from customers during 2019 for 2019 trips	68 990
Payable to suppliers as at the end of 2018 (paid in 2019)	1 480
Cash paid to suppliers during 2019 for 2019 expenses	36 910
Payable to suppliers as at the end of 2019 (payable in 2020)	2 650
Depreciation on equipment during 2019	3 740
Cash in bank as at the end of 2018	12 430

PROBLEM 3.22

Reconciliation of cash profit and accrual profit

Goose Services Company had a cash profit for its first year in business of $75 200 and an accrual profit of $60 330. Show how the two amounts reconcile, using the following information:

1. Expenses for the next year, paid already, totalled $5100.
2. Unpaid bills for expenses at the end of the year totalled $26 180.
3. Uncollected revenue at the end of the year was $21 750.
4. Depreciation on the company's equipment was $15 540 for the year.

PROBLEM 3.23

Calculate accrual profit and change in cash

'I just don't understand it!' Barry had received his accountant's calculation of his business profit, showing an accrual profit for his first year in business of $45 290. 'If I made so much money, why don't I have it in the bank? My bank account shows only $15 040 on hand!'

Barry operates Barry Supply, which provides stationery and office supplies to business customers. He has no store, just a small rented warehouse, and only one employee. Here are the data that Barry and his accountant used. Explain clearly to Barry:

1. How the accountant calculated the $45 290 profit.
2. Why there is only $15 040 cash on hand.

	$
Collected from customers during the year	143 710
Still owing from customers at the end of the year (collected next year)	15 220
Paid for products to resell and for other expenses, including wages, during the year	128 670
Owing for products and other expenses at the end of the year (paid next year)	9 040
Cost of unsold products on hand at the end of the year (all sold next year)	26 070
Depreciation on equipment during the year	2 000

PROBLEM 3.24

Prepare financial statements from accounts

	$		$
Salaries expense	71 000 DR	Dividends declared	11 000 DR
Income tax payable	2 800 CR	Accumulated depreciation	94 000 CR
Land	63 000 DR	Cash at bank	18 000 DR
Employee benefits expense	13 100 DR	Income tax expense	6 900 DR
Tax deductions payable	5 400 CR	Credit sales revenue	346 200 CR
Accounts receivable	16 400 DR	Inventory on hand	68 000 DR
Cash sales revenue	21 600 CR	Prepaid insurance	2 400 DR
Dividends payable	5 500 CR	Beginning retained profits	92 800 CR
Depreciation expense	26 700 DR	Accounts payable	41 000 CR
Cost of goods sold	161 600 DR	Interest revenue	1 700 CR
Insurance expense	11 200 DR	Building	243 000 DR
Share capital	200 000 CR	Trucks and equipment	182 500 DR
Office expenses	31 100 DR	Salaries payable	4 100 CR
Mortgage payable	114 000 CR	Miscellaneous expenses	8 200 DR
Bank loan owing	21 800 CR	Interest expense	16 800 DR

1 Look at the list of accounts (in no particular order) of Geewhiz Productions at 30 November 2018 and decide which ones are income statement accounts.
2 Calculate net profit based on your answer to question 1.
3 Calculate ending retained profits based on your answer to question 2.
4 Prepare the following financial statements, demonstrating that your answers to questions 2 and 3 are correct.
   a Income statement for the year ended 30 November 2018.
   b A note calculating retained profits for the year ended on that date.
   c Balance sheet at 30 November 2018.
5 Comment briefly on what the financial statements show about the company's performance for 2018, and its financial position at 30 November 2018.

PROBLEM 3.25

Profit and loss smoothing and ethics

Income (profit) smoothing is a way of manipulating a company's net profit in order to create a desired impression of management's capability and performance. Other kinds of profit manipulation by management have also been alleged. Do you think it is ethical for management to manipulate the figures by which its performance is measured? Why or why not?

CASES

CASE 3A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.
1 What period is covered by the income statement?
2 List the main types of revenues.
3 List some of the larger expenses incurred in earning revenue.
4 What are interest expense and interest revenue for the year?
5 What is cost of goods sold for the year?
6 What is total depreciation and amortisation for the year?
7 Explain the change in retained profits from 2016 to 2017.
8 What is income tax expense for the year?
9 What are the basic earnings per share for 2017?
10 What would be the normal balance (DR or CR) of each of the following accounts included in the Woolworths Limited balance sheet or the relevant notes: trade debtors, inventory, investments, land and buildings, advances to employees, trade creditors, provision for income tax, provision for dividends and retained profits?

HOW'S YOUR UNDERSTANDING SOLUTIONS

3A (i) Cash at bank (an asset) increases and accounts receivable (an asset) decreases.
   (ii) Inventory (an asset) increases and accounts payable (a liability) increases.
   (iii) No, because neither transaction affected revenues or expenses.

3B (i) An asset (cash) will decrease by $300 and there will be an electricity expense of $300 which will decrease shareholders' equity.
   (ii) One asset (inventory) will decrease by $20 000 while another asset (accounts receivable) will increase by $30 000 resulting in an overall increase in assets of $10 000. An expense (COGS) will increase by

$20 000 and a revenue (sales) will increase by $30 000 resulting in an increase in net profit of $10 000 and therefore an increase in shareholders' equity of $10 000.

(iii) An asset (cash) will decrease and a liability (wages payable) will decrease.

3C Decrease by $300; increase by $10 000; no effect.

3D (i) No effect; increase $20 000

(ii) $16 000; increase $16 000 (increase accounts receivable $30 000, decrease inventory $14 000)

(iii) No effect; decrease $20 000

(iv) No effect; no effect

(v) $12 000; decrease $10 000

(vi) No effect; increase $50 000

(vii) No effect; decrease $5000

3E (i) Cash increases by $20 000, share capital increases by $5000 and long-term loan increases by $15 000. The result is total increase to assets $20 000, and total increase in liabilities and shareholders' equity of $20 000.

(ii)

DR	Truck	$89 000	
CR	Cash		$20 000
CR	Truck loan		$69 000

The result is a net total increase to assets of $69 000 and total increase to liabilities of $69 000.

3F (i) $3830 (remember accounts receivable go up via credit sales and down by receipts from accounts receivable).

(ii) $9450 (remember retained profits go up when there is a profit but go down when a dividend is declared because it is a distribution of profit to shareholders).

3G (i)

DR	Loan	$800	
CR	Cash		$800

(ii) Cash (asset) decreases by $800 and loan (liability) also decreases by $800. Therefore $2400, $5550, $13 250, $4750 and $8500 (no effect).

3H (i) $36 040 ($29 490 + $112 350 – $91 170 – $6210 – $3420 – $5000)

(ii) Cash is decreased by $1200 and an expense of $1200 has been incurred therefore assets decrease by $1200; no effect on liabilities; profit and therefore retained profits and equity are all decreased by $1200.

3I

	$	$
Current assets		
Cash at bank		90
Accounts receivable		640
Inventory		210
		940
Noncurrent assets		
Equipment*	890	
Accumulated depreciation*	(470)	420
Total assets		1 360

* Note you could have shown this as Equipment (net) 420

3J (i) Increases profit.

(ii) Does not impact profit (i.e. increases cash, decreases accounts receivable).

(iii) Decreases profit.

3K (i) Cash profit is $26 000 ($47 000 cash receipts – $21 000 cash payments).

(ii) Accrual profit is $20 350 (revenue of $47 000 – $3500 + $3200 = $46 700; expenses of $21 000 – $700 + $1450 + $4600 = $26 350).

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1

	Assets			= Liabilities			+ Shareholders' equity			
	Cash $	Accounts receivable $	Inventory $	Accounts payable $	Rent payable $	Tax payable $	Share capital	Retained profits $	Revenue $	Expenses $
OB	+800	+400	+900	+600	+700		+300	+500		
a		+10 000							+10 000	
b	+9 600	−9 600								
c			+6 100	+6 100						
d	−6 300			−6 300						
e			−6 400							−6 400
f					+2 400					−2 400
g	−2 900				−2 900					
h						+350				−350
i	−450							−450		
CB	+750	+800	+600	+400	+200	+350	+300	+50	+10 000	−9 150

NB. Increases in expenses have been entered as minus figures.

2

FLASHY FASHIONS LTD
INCOME STATEMENT FOR THE YEAR ENDED 30 SEPTEMBER 2019

	$
Sales	10 000
Less Cost of goods sold	6 400
Gross profit	3 600
Less Operating expenses	
Rent	2 400
Profit before tax	1 200
Less Tax expense	350
Net profit	850

FLASHY FASHIONS LTD
BALANCE SHEET AS AT 30 SEPTEMBER 2019

	$		$
Current assets		**Current liabilities**	
Cash	750	Accounts payable	400
Accounts receivable	800	Tax payable	350
Inventory	600	Rent payable	200
		Shareholders' equity	
		Share capital	300
		Retained profits	900
Total assets	2 150	**Total liabilities and shareholders' equity**	2 150

PRACTICE PROBLEM B

1 $160 000
2 $105 000
3 $180 000
4 $140 000

PRACTICE PROBLEM C

1

	Assets =						Liabilities + Shareholders' equity						
	Cash	**A/R**	**Inventory**	**Prepayments**	**Equip**	**Accum. dep**	**A/P**	**Loan**	**Share capital**	**Retained profits**	**Revenues**	**Expenses**	**Dividends**
	+90 000	+106 000	+118 000	+45 000	+400 000	−125 000	+110 000	+240 000	+200 000	+84 000			
a	+23 000	−23 000											
b	+80 000								+80 000				
c		+76 000	−32 000								+76 000	−32 000	
d						−4 000						−4 000	
e	−60 000							−60 000					
f	−7 000											−7 000	
g				−9 000								−9 000	
h	−13 000											−13 000	
i	−28 000		+28 000										
j	−6 000												−6 000
k	−36 000						−36 000						
	+43 000	**+159 000**	**+114 000**	**+36 000**	**+400 000**	**−129 000**	**+74 000**	**+180 000**	**+280 000**	**+84 000**	**+76 000**	**−65 000**	**−6 000**

PRACTICE PROBLEM C (cont'd)

2

NEWCOMBE LTD
INCOME STATEMENT FOR THE MONTH ENDED 30 JUNE 2019

	$	$
Sales		76 000
Cost of goods sold		(32 000)
Gross profit		44 000
Operating expenses		
Wages	13 000	
Prepaid expenses	9 000	
Administrative	7 000	
Depreciation	4 000	(33 000)
Net profit		11 000

NEWCOMBE LTD
STATEMENT OF RETAINED PROFITS FOR THE MONTH ENDED 30 JUNE 2019

	$
Opening retained profits	84 000
Add net profit for the month	11 000
	95 000
Less dividends declared	(6 000)
Closing retained profits	89 000

NEWCOMBE LTD
BALANCE SHEET AS AT 30 JUNE 2019

	$		$
Current assets		**Current liabilities**	
Cash	43 000	Accounts payable	74 000
Accounts receivable	159 000		
Inventory	114 000	**Noncurrent liabilities**	
Prepayments	36 000	Long-term loan	180 000
	352 000		254 000
Noncurrent assets		Shareholders' equity	
Equipment	400 000	Share capital	280 000
Accumulated depreciation	(129 000)	Retained profits	89 000
	271 000		369 000
Total assets	623 000	**Total liabilities and equity**	623 000

3

	Net profit	Total assets	Total liabilities	Shareholders' equity
a	No effect	No effect	No effect	No effect
b	No effect	Increase	No effect	Increase
c	Increase	Increase	No effect	Increase
d	Decrease	Decrease	No effect	Decrease
e	No effect	Decrease	Decrease	No effect
f	Decrease	Decrease	No effect	Decrease
g	Decrease	Decrease	No effect	Decrease
h	Decrease	Decrease	No effect	Decrease
i	No effect	No effect	No effect	No effect
j	No effect	Decrease	No effect	Decrease
k	No effect	Decrease	Decrease	No effect

NB: If net profit increases it increases retained profits and therefore shareholders' equity increases.

4

a	DR	Cash	23 000	
	CR	Accounts receivable		23 000
b	DR	Cash	80 000	
	CR	Share capital		80 000
c	DR	Cost of goods sold	32 000	
	CR	Inventory		32 000
	DR	Accounts receivable	76 000	
	CR	Sales revenue		76 000
d	DR	Depreciation expense	4 000	
	CR	Accumulated depreciation		4 000
e	DR	Long-term loan	60 000	
	CR	Cash		60 000
f	DR	Administrative expense	7 000	
	CR	Cash		7 000
g	DR	Expenses	9 000	
	CR	Prepayments		9 000
h	DR	Wages	13 000	
	CR	Cash		13 000
i	DR	Inventory	28 000	
	CR	Cash		28 000
j	DR	Retained profits	6 000	
	CR	Cash		6 000
k	DR	Accounts payable	36 000	
	CR	Cash		36 000

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APPENDIX TO CHAPTER 3

A brief history of early accounting

With the overview of the double-entry accounting system taken care of, we can now provide a historical review, because understanding how we got to where we are helps in understanding why we do what we do now (and how to do it). Financial accounting is an ancient information system, with many of its ideas originating hundreds of years ago.

Like other complex human inventions, financial accounting did not just appear one day fully formed. It has developed over thousands of years and has been thoroughly intertwined with the development of civilisation. A science writer, quoting a brewery owner, had this to say on the topic of accounting and beer:

> Whatever the reason, [the early farmers in Mesopotamia] grew grain [and] 'if you have grain, you need storehouses; if you have storehouses, you need accountants; if you have accountants, bang – you're on the road to civilisation' (or the world's first audit).[1]

Our focus here is on accounting, not on history. Nevertheless, the past has a bearing on accounting, in that accounting evolves as business, government and other institutions in society evolve. As the needs for information change, accounting changes to meet those needs. Accounting's evolution is not always smooth, and not always efficient. At any given time there are aspects of accounting that may not seem to fit current needs well, but over time we can expect that accounting will, as it has in the past, meet those needs if they persist.

When commerce consisted mainly of trading among families or tribal units, information demands were not complicated. Money had not been invented, so even the simple financial reports you saw in Chapter 1 could not have been prepared. People would want to know what they had on hand, and would need some sort of documentation to accompany shipments, so that they and their customers would agree on what was being traded. To meet such needs, accounting began as simple list-making. Lists of the family's or tribe's resources were particularly important and, later, lists of debts to other tribes or families. Later still, as commercial activities became more complex, families began to employ others to run aspects of their businesses and began also to create large business units with several locations. Accounting also had to become more complex, providing records that could be used to monitor the activities of employees and businesses in far-flung locations. People found that they needed to be able to verify what employees and traders said was happening. Because of these needs, the practice of having systematic records that could be audited later was begun.

To help you understand how present-day financial accounting concepts and techniques arose, we start with a brief history taking us from about 4500 BC in Mesopotamia to the early 1800s in England. We then cover the two succeeding centuries, bringing the history up to the present. Keep in mind that the purpose of this review is to help you understand accounting, not to explain general history.

Because modern accrual accounting, as practised in Australia and much of the rest of the world, has its roots in the development of Western civilisation, our review of accounting history is oriented to that development. The interesting stories of the development of accounting in other parts of the world, such as China, India and Africa, are therefore not included. The comments below are necessarily brief. If you would like to read further, some reading suggestions on accounting history are provided at the end of the appendix.[2]

A3.1 Mesopotamia to Rome: 4500 BC to AD 400

For a society to demand accounting, it must have active trade and commerce, a basic level of writing, methods of measuring and calculating, and a medium of exchange or currency.[3] The earliest known civilisation with an active record-keeping system flourished in Mesopotamia (now Iraq and Syria). Generally, a common language (such as Babylonian) existed for business, and there was also a good system of numbers and currency, and record-keeping using clay tablets.

As far as we know, ordinary merchants and general traders did not keep official records. Officials of the government and religious leaders of the temples decided what records were to be maintained for official purposes, and scribes did the record-keeping. A scribe was apprenticed for many years to master the craft of recording taxes, customs duties, temple offerings and trade between governments and temples. Records consisted of counts and lists of grain, cattle and other resources, and of obligations arising from trade. We can still see that today: the balance sheet of any organisation includes items such as unsold products and equipment, and trade obligations such as amounts due from customers and due to suppliers. All these figures are summaries supported by detailed lists.

When a scribe determined that a particular record was complete and correct, the scribe's seal was pressed into a clay tablet to certify that this was so, and the tablet was baked to prevent alteration.[4] The scribe was a forerunner of today's accountants and auditors. (However, today's auditors do not use seals; instead, they sign an audit report to indicate that the financial statements are fairly presented.) This scribe-based form of record-keeping was used for many years, spreading across lands and time to Egypt, Greece and Rome. Media other than clay tablets, such as papyrus, were used as time passed.[5] (Do you suppose people accustomed to clay tablets would have resisted the introduction of papyrus, just as some people accustomed to pencil and paper resisted the introduction of computers for accounting?)

Trade and commerce grew over thousands of years, from small family operations to very large activities involving kings, religious leaders and various levels of government. For example, as Greek civilisation spread and then the Roman Empire expanded greatly, administrative regions were organised in conquered lands in order to simplify governing them. These regions were managed by local administrators or governors, who generally could neither read nor write. When accounting of their management was required, an official of the central government would come out and listen to an oral report. This event was, therefore, a 'hearing', and the listening official was there to 'audit' (from the Latin word for 'hear'). Today, the person who comes to inspect and approve the financial statements of an organisation is called an auditor, though a lot more goes on today than just listening.

A3.2 The Middle Ages to the Renaissance: AD 400–1500

With the fall of the Roman Empire in about the 5th century AD, both trade and associated record-keeping became stagnant in Europe, though activities still continued in Constantinople, the Middle East, India, China and elsewhere. In Europe, a greater stimulus to trade began with the period of the Crusades, around the 11th century, when kings and princes could not themselves provide the material to support their retinues of crusaders bound for the Holy Land. This was a prosperous time for the lesser nobles and private merchants, who supplied the crusaders from ports such as Venice. A shift of supply and economic power from governments to the private sector began, and large merchant banks developed, such as those of the Medici in Florence. These banks became heavily involved in the businesses and governments they helped to finance.

Because of all these activities, a more exact system of record-keeping was developed in order to keep track of materials supplied, cash received and spent and, especially, who owed whom how much money.[6]

For the traders, merchants and bankers, the stimulus provided by the Crusades set record-keeping off in a more organised and systematic direction. The new direction was made possible also by refinements in the use of numbers and arithmetic that had taken place in Arab countries during Europe's Middle Ages. The number system we use in accounting and in our daily lives originated from these refinements.

The exact way in which accounting or, more precisely, the record-keeping basis of accounting we call bookkeeping, evolved during this busy time is a subject of debate among accounting historians. A major event, however, was the publication in 1494 of a treatise on 'double-entry' bookkeeping by Friar Pacioli of Venice. In the book, he referred to the method as an established procedure that had been in use in the Medici banks of Italy and in other businesses for some time. Pacioli's book was an important contribution to the knowledge of algebra and arithmetic, and of value specifically because of its detailed description and codification of the double-entry system. It was rapidly translated into all the major European languages and, using these translations, European scholars extended Pacioli's ideas.

Double-entry bookkeeping

Pacioli's concepts were revolutionary but sound: they form the fundamental basis of modern financial accounting, providing a method of pulling together all the lists of resources and obligations in a way that helps to prevent errors. The idea is that each trade or other commercial transaction is recorded (entered) twice, hence the descriptor 'double-entry':

1. once to recognise the resource involved in the transaction
2. once to recognise the source or effect of that resource change.

Instead of the disconnected lists that existed before double-entry bookkeeping was invented, the lists of resources and sources were now connected to each other. Now a balance sheet of the modern kind could be prepared. Double-entry bookkeeping, which might be seen as a pretty humdrum sort of activity, turns out to have a solid conceptual basis and a long and important history.

If a dollar amount (or an amount in any other medium of exchange – pounds, francs, yen, marks and so on) can be assigned to each transaction, that amount can be used to record both the resources and sources sides of each. Then, by adding up all the resources amounts and all the sources amounts, the two sides act as a check on each other. If errors are made, they are likely to be found because the two sides will not add up to the same amount. If they do add up, we say they 'balance'. Hence, the 'balance sheet', which shows that the two sides do add up. The record-keeping system Pacioli described to the world is one of the most far-reaching of human inventions.

A3.3 Britain: 1500 to the early 1800s

Before Pacioli, English record-keeping had much in common with Roman methods used hundreds of years earlier. 'Stewards' were employed to manage the properties of the English aristocracy, much as local governors had been in Roman-held areas. In 1300, Oxford University offered an accounting course: Roman record-keeping for stewards.[7] The concept of stewardship – of a person managing something on behalf of someone else – is still an important aspect of accounting. It is often said, for example, that an organisation's financial statements demonstrate the quality of management's stewardship of the organisation on behalf of its owners.

In the several hundred years after Pacioli's treatise, accounting developed to suit the social and business circumstances of each country. France, for example, had a strong, centralised government and developed a national accounting system written by a central board of administrators. On the other hand, England (which in combination with its neighbours became Great Britain) had less government involvement in commerce and trade, and a smaller civil service, and relied more heavily on the initiatives of the private sector and the

courts.[8] The financial accounting system now used in Australia, New Zealand, the United Kingdom, Canada, the United States and many other countries relies heavily on the precedents set in England during this period. The English approach used Pacioli's double-entry system for record-keeping and built the financial statements' reporting system on that. Other countries, including Australia, have developed that further.

Financial accounting in continental Europe developed on a somewhat different path, as it did in Russia, China, Japan and many other countries. However, the British–American–Australian approach is still gaining popularity worldwide; for example, China adopted it for much of its financial reporting in the early 1990s. Efforts are being made worldwide to 'harmonise' financial accounting to assist international trade, and the sort of financial accounting set out in this book seems likely to become the international standard.

FOR YOUR INTEREST

John Croaker (1788–1824) was an English-born bank clerk who was convicted of embezzlement and sentenced to transportation for 14 years to the colony of New South Wales. He was granted an immediate ticket of leave by Governor Macquarie and was employed as a clerk in the judiciary. His arrival in New South Wales coincided with the establishment of the Bank of New South Wales (now known as Westpac), and Croaker set up its bookkeeping procedures according to the system of double entry. Not only did he introduce double-entry bookkeeping to the bank but 'there are good reasons for believing that he introduced the system to the colony as a whole'.

Source: J. Booker and R. Craig, *John Croaker: Convict Embezzler*, Melbourne University Press, 2000, p. 19.

Until the mid-1600s, accounting and record-keeping (bookkeeping) were largely synonymous. Records were a private matter for the attention of the lord, merchant or banker. But then a significant development occurred: the advent of companies that sold shares of ownership to private citizens. These citizens could not all crowd into the company's office to inspect the records, even if they could understand them. This produced a demand for some form of reporting to the shareholders; for financial statements that could be relied on as accurate summaries of the records. There was a demand that the balance sheet be more detailed in its description of the owners' equity and the changes in it than had been necessary before there had been such dispersed ownership. There was even some demand for regulation of such reports. For example, in 1657 Oliver Cromwell, as Regent of England, requested that the East India Company publish its balance sheet.[9] Accounting was on its way to developing the standards of calculation and disclosure that are very important in modern accounting and distinguish accounting from the underlying practice of record-keeping. Progress in this direction was not rapid, but it gained momentum with the Industrial Revolution.

The developing Industrial Revolution of the late 1700s and early 1800s helped to fuel the emerging commercial sector of Britain, and accounting practices became an important part of this. In 1825, the British Parliament eased hundred-year-old prohibitions on trading shares in companies, and the modern era of share markets and publicly owned companies began in earnest. A few years later, Parliament required annual audits of the balance sheets of such companies. Accounting and auditing continued to develop in response to the changing needs of the society of which they were a part.

From then on, accounting's emphasis shifted from record-keeping to the choice of accounting method, professional ethics and the various standards and laws governing financial reporting and financial disclosure.

A3.4 Financial accounting's recent history

Developments in the 19th century[10]

Until the early 1800s, most business enterprises were formed for specific ventures, were financed by a few wealthy owners and were disbanded when the ventures were completed. The sharing of profits among the owners of the enterprise or venture took place at the end, when all the assets were sold, the liabilities were paid off and the net amount remaining was then distributed. As industrialisation increased, large industrial plants began replacing short-term ventures as the major form of business enterprise, and the traditional method of financing and profit-sharing was no longer acceptable. The large cost of constructing and maintaining these more capital-intensive enterprises was often more than a few owners could afford, and the long life of the assets made waiting for the winding up of the enterprise before sharing profits an unsatisfactory option.

Various pieces of companies' legislation were introduced in Britain in the 1830s, 1840s and 1850s. This legislation allowed companies to sell shares in stock markets (which, because the initial issuing of shares provides capital – that is, equity funds for the companies – are also called capital markets). The legislation also characterised a major feature of companies: liability of the company's owners to the company's creditors was, and still is, limited to the amount of the owners' unpaid capital in the company. The justification for the limited liability feature was that individual investors could not always be aware of the actions of the directors they elected or the managers who were, in turn, engaged by the directors. Therefore, investors should not be liable for any more than the amount of money they invested in the enterprise. But no investors would want to lose even that, so as capital markets developed, the demand for information about the corporations involved grew.

The limited liability of its owners, and an existence separate from its owners, are two factors that largely define the corporation. Modern laws and business practices complicate the operation of capital markets and can reduce the protection of limited liability, but the idea that a corporation is a 'legal person', able to act on its own and survive changes in its owners, is still central to business. In financial accounting, the focus is on the economic entity that is exchanging physical and financial goods and promises with other economic entities, but since laws began to define what corporations are (and sometimes what proprietorships, partnerships and corporate groups are, too), accounting also must reflect the legal nature of economic exchanges and the structure of the organisation.

An important legal issue is the sharing of profits. The problem of how to ensure the fair calculation and sharing of ownership interests led legislators to require that a corporation present its balance sheet annually to its shareholders and that an auditor be present to report to the shareholders on the validity of that financial statement. Legislation also required that any annual payments to shareholders should not come out of the sale of, or a decrease in the value of, a corporation's long-term capital assets. Such payments should be made out of monies earned yearly from these assets after all yearly debts are paid. We can think of 'monies earned yearly' as revenues, and 'yearly debts' as expenses, so this meant, roughly, that payments to shareholders should come out of yearly profit. This is close to the dividend requirement placed on most corporations today (dividends can normally only be paid out of net profit). Corporations began to compute profit in statements or schedules separate from the balance sheet, so that they could demonstrate that they had performed well enough to permit the distribution of dividends or the issuing of more shares.

As businesses grew in size and complexity, the demand for information on financial performance increased. The static picture presented by the balance sheet was not good enough for the emerging stock markets, for the increasingly large group of non-owner professional managers, or for governments that wished to evaluate (and tax!) businesses' performance (to mention just a few of the groups interested in evaluating performance). The profit and loss statement (now called an income statement in Australia) has

come into its own as a central part of financial reporting in the last 100 years, and its measurement of financial performance is central to economic activity and performance evaluation in most of the world.

In responding to these demands for better performance information, accountants were limited by a lack of accounting theories or conventions to illustrate and define how to prepare balance sheets and income statements. There was no nationally organised association of accountants in Britain until the end of the 1800s (although the Accountants' Society of Edinburgh received a royal charter in 1854, an event that led to the term 'chartered accountant'). Financial accounting methods developed on a case-by-case basis, with no overall plan or concepts throughout this period. Some model financial statements and examples from legislation were being used, and income statements were becoming established. However, as business and commercial activity continued to increase, it was becoming necessary to establish a rational basis (principles) for preparing financial statements and for extending these principles to new settings.

Towards the end of the 1800s, several British court cases had established that accountants and auditors had to decide what were proper and fair financial statements, and could not expect courts and legislatures to decide for them. A prominent accountant, Ernest Cooper, voiced his concern in 1894: 'The already sufficient responsibilities and anxieties of an Auditor will be extended beyond those known of any trade or profession.'[11] Accounting was on its way to formulating the professional rights, responsibilities and criteria for competence, as had the already established professions of law, engineering and medicine.

FOR YOUR INTEREST

Sergeant Jeremiah Murphy holds a unique place in Australian commercial history as being the first person in Australia [whose affairs were recorded as a ledger account prepared within a double-entry accounting system]. His bank deposit on 5 April 1817 was the first deposit taken by the Bank of New South Wales. The recording of this deposit appears to provide the earliest artefact that has survived of the operation of a double-entry accounting system in colonial Australia.

Source: R. Craig, 'Jeremiah Murphy: Bank Account No. 1', *Australian CPA*, December 1998, pp. 68–9.

NOTES

1 Stone, J., 'Big Brewhaha of 1800 BC', *Discover*, January 1991, p. 14. (The words quoted in the excerpt are those of Fritz Maytag, owner of the Anchor Brewing Company of San Francisco.)
2 Information about the history of accounting and business is published in many places. A variety of professional and academic journals have shown an interest in such material, and there is a journal devoted specifically to it: the *Accounting Historians Journal*. See also the references below.
3 Coustourous, G. J., *Accounting in the Golden Age of Greece: A Response to Socioeconomic Changes*, Center for International Education and Research in Accounting, University of Illinois, Champaign, 1979.
4 Keister, O. R., 'The Mechanics of Mesopotamian Record-Keeping', in Chatfield, M. (ed.), *Contemporary Studies in the Evolution of Accounting Thought*, Dickenson Publishing Company Ltd, Belmont, 1968, pp. 12–20.
5 O. ten Have, *The History of Accounting*, Bay Books, Palo Alto, 1976, pp. 27–30.
6 Ibid., pp. 30–46.
7 Chatfield, M., 'English Medieval Book-keeping: Exchequer and Manor', *Contemporary Studies in the Evolution of Accounting Thought*, p. 36.
8 Ibid., pp. 56–74.
9 O. ten Have, *History*, p. 67.
10 Some of the ideas in this section were developed with reference to Ross Skinner's *Accounting Standards in Evolution*, Holt, Rinehart & Winston, Toronto, 1987. For a comprehensive treatment of the development of accounting standards, see part 1 of Skinner's book.
11 Ibid., p. 23.

4 Record-keeping

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 describe the importance of good record-keeping (4.1, 4.5, 4.7)

LO2 describe the criteria used to determine if an event involves an accounting transaction (4.2)

LO3 identify accounting transactions (4.2)

LO4 explain the various steps in the accounting cycle (4.3, 4.4)

LO5 describe what source documents exist and how they provide data for the accounting system (4.3, 4.4)

LO6 prepare journal entries (4.3, 4.4)

LO7 post to ledger accounts and calculate the closing balances (4.3, 4.4)

LO8 prepare a trial balance (4.3, 4.4)

LO9 prepare closing entries and explain the need for these closing entries (4.3, 4.4)

LO10 prepare financial statements from the trial balance (4.3, 4.4).

CHAPTER OVERVIEW

This chapter covers the processes by which transactions are recorded in the accounting system. It describes the criteria that are used to determine if an accounting transaction occurs. It then considers the basic steps in the accounting cycle: source documents, journal entries, posting to ledgers, trial balances, adjusting entries, closing entries and the preparation of financial statements.

4.1 The importance of good records

LO1 This chapter emphasises a very basic part of accounting: the record-keeping (bookkeeping) procedures that form the records on which accounting information is built.

Complete and accurate records are important: they provide the observations and the history of the organisation. Without knowing what has happened, investors and managers cannot make plans for the future, evaluate alternatives properly or learn from past actions. In today's complex business environment – especially since organisations have become very large – the number of events (or transactions, as we will call them) is much too great for anyone to keep track of without keeping accurate records (written or, these days, mostly on computer). Records provide the basis for extrapolations into the future, the information for evaluating and rewarding performance, and a basis for internal control over the existence and quality of an organisation's assets. Record-keeping, however, does cost money; therefore, records should be worth their cost. How complex and sophisticated to make one's records is a business decision, much like decisions such as how to price or market one's product.

4.2 Financial accounting's transactional filter

LO2 LO3 Accounting is an information system to filter and summarise data. Information systems select observations from the world, collect those results into data banks, and organise and summarise the data to produce specific kinds of information. This is useful because decision-makers cannot cope with masses of raw, unorganised observations, and it is economically efficient to have one system organise data into information on behalf of the various users.

An information system such as financial accounting is inherently limited. It can report only what its sensors pick up as it seeks out data or filters data from the mass of ongoing events. No information system tells you 'the truth', and certainly not 'the whole truth', because it can only pass along information based on what it has been designed or permitted to gather as data. Figure 4.1 represents the situation. Once a piece of raw data is admitted, recording activity takes place and it is stored in a database (in accounting: stored in manual or computerised accounts, ledgers, journals ['the books'] and supporting records). The data is then organised to produce usable information (in accounting: financial statements and reports).

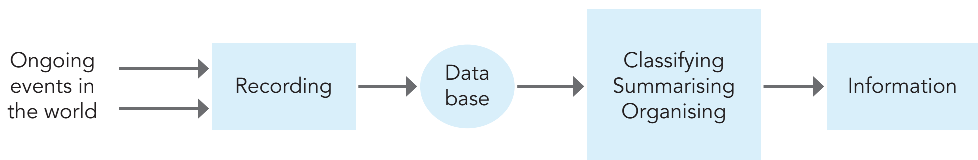

FIGURE 4.1 Steps in the accounting information system

In accounting, we generally refer to the left part of the diagram – the data recording and some routine classifying and summarising – as bookkeeping. We refer to the right part, the turning of data into information for users, as accounting or reporting. Financial accounting information is contained in the system's final product, the financial statements and notes.

Accounting reports are based on, and are limited by, the data that is collected. Therefore, if you are to understand the reports, you have to understand how accounting filters, notices and chooses events to record. Financial accounting's filter is the transaction. Generally, if an event is a transaction, it is recorded in financial accounting's database; if it is not, the routine accounting system ignores the event. (You'll see in Chapter 5 that one of the reasons for accrual accounting techniques is to provide for events that the transaction-based record-keeping system has ignored or treated incorrectly.)

The following are examples of external accounting transactions. They should be recorded routinely by the accounting system:

1 The payroll department pays employees by deposits to their bank accounts.
2 A customer pays, in cash, an account owing since last month and gets a receipt.
3 A sales clerk prepares an invoice for a customer for the sale of goods the customer is taking with her and promises to pay for.
4 The bank charges bank fees on an account.
5 The storeroom receives a shipment of spare parts for the delivery trucks, along with an invoice from the parts supplier.

There is no limit to the number or kinds of transactions that human ingenuity can devise. Accounting has to deal with them, and must change as they change. Nowadays, most companies have to handle internet transactions, all of which have fundamentally changed many accounting systems.

Transactions are partly defined by the legal and economic system. In our society, promises to pay can be enforced in the courts, so they are considered transactions, as in example 3 above. In general, there are two main kinds of transactions important in accounting: cash transactions, which feature the concurrent exchange of cash, and credit transactions, which feature (partially or fully) promises to exchange cash in the future.

The following are examples of events that are *not* accounting transactions and that will therefore *not* be recorded routinely, if at all, by the accounting system:

1 The chief executive officer (CEO) of the company breaks her leg while skiing.
2 The company hires a new IT manager who will start in two months' time.
3 The main warehouse burns to the ground overnight.
4 A customer orders a machine to be delivered next month.
5 Real estate reports indicate the company's land has gone up in value by 14 per cent since last year.

Some such events may be brought into the system by special adjustments to the routine recording system that we will learn about later. Events 2 and 3 are examples. But many are never included in financial accounting's information system. Event 1 is an example.

Other events are recorded only after something more has happened. Event 4 is recorded by the accounting system only when the machine is delivered, and in Australian accounting, event 5 is recorded only if directors decide to revalue land.

Human ingenuity comes in here again: some large or innovative companies have accounting systems that routinely record events that are not transactions and that other (or smaller) companies would ignore or leave to be done as special adjustments. Some examples are internal transfers of goods from department to department in the company, monthly changes in the market values of investments, estimated profit earned on partly completed construction contracts, and revisions in estimates for future warranty payments. These may be included for various reasons; for instance, because other information systems in the company provide the necessary data so they can be used easily, or because management believes more finely tuned accounting information to be useful in decision-making.

What distinguishes accounting transactions, such as in the first list above, from the sorts of events in the second list? All of those in the second list may be important economically, but they are not routinely recorded by the accounting system. In order to qualify as a financial accounting transaction, an event must normally have all five of the following characteristics:

- Three fundamental economic and legal characteristics:
  - *exchange:* the event must involve an exchange of goods, money, financial instruments (such as cheques), legal promises or other items of economic value
  - *past:* the exchange must have happened, even if just seconds ago (financial accounting is essentially a *historical* information system)
  - *external:* the exchange must have been between the entity being accounted for and someone else, such as a customer, an owner, a supplier, an employee, a banker or a tax collector (the exchange must have been across the entity's boundary, so to speak).

- Two supplementary characteristics:
  - *evidence:* there must be some documentation of what has happened (recorded on paper or electronically)
  - *dollars:* the event must be measurable in dollars or the currency unit relevant in the country where the transaction happened.

The following transaction characteristics define the nature and value of financial accounting information.

- First, transactions are linked to the legal and economic concept of an exchange: completing a contract by giving or receiving consideration in return for the goods or services that change hands. The transactional basis of financial accounting thus has roots in the fundamental legal and economic processes by which society and business operate. It is no accident that accounting recognises, as transactions, events that have a broader legal and business importance too.
- Second, they constitute a large part of the underlying rationale for the historical cost basis of accounting, which is firmly founded on the transaction. If a transaction has *happened*, it should be in the accounting system and in the financial statements. It is history. If it has not yet happened, it is not yet the same sort of legal event and will not yet be in the historical accounting system.
- Third, the characteristics of the transaction provide the basis on which the records can be verified (audited) later as part of the process of ensuring that the accounting information is credible. Events that do not have these characteristics are difficult to verify later, and therefore inevitably lack credibility as measures of financial performance or position.

Let's look at the five events from the list of accounting transactions on page 135 (1 to 5) and see that they fit the set of transaction characteristics:

	Exchange	Past exchange	External party	Evidence	Dollars
1	Money	Yes	Employee	Direct deposit	Yes
2	Money	Yes	Customer	Receipt	Yes
3	Goods, promise	Yes	Customer	Invoice	Yes
4	Money	Yes	Bank	Bank statement	Yes
5	Goods, promise	Yes	Supplier	Invoice	Yes

The five events in the subsequent list on page 135, which are *not* accounting transactions, lack several characteristics, especially that of being a past economic exchange. (Event 4, for example, is not yet an exchange because the machine hasn't yet been delivered.)

What if an accountant is not satisfied with the set of data recorded by an accounting system and wishes to adjust this data to reflect some event he or she thinks is important in measuring financial performance or position? This can be done by recording special alterations called 'adjustments' or adjusting journal entries, which introduce new data or alter the recording of previous data. Deciding whether to make such adjustments and determining the dollar amounts to use in them require expertise and good judgement, since they involve events that are not exchanges, are not always accompanied by normal evidence, or are not readily measurable in dollars. You'll see much more about adjustments in the discussion of accrual accounting in Chapter 5.

Most of this book involves the accounting (right-hand) side of the earlier information system diagram: deciding on adjustments, deciding on reporting format, making supplementary notes and other such activities. Don't forget that the basic transactional recording system underlies the whole process, and the preceding definition of what is and isn't an external transaction gives the accounting system much of its valuable objectivity. However, also note that accrual accounting is designed to go beyond external transactions and add a further layer of information related to internal transactions such as depreciation, unpaid wages and prepayments. These are discussed in more detail in Chapter 5.

HOW'S YOUR UNDERSTANDING?

4A Which of the following transactions would be recorded in the accounting system for Orange Limited?
- (i) Issue of shares by Orange Limited to the public.
- (ii) Sale of shares from some shareholders of Orange Limited to new shareholders.
- (iii) Orange Limited received a purchase order for the supply of 100 metres of wire.
- (iv) Orange Limited delivered the above ordered wire to the customer.

4.3 Accounting's 'books' and records

LO4 LO5 LO6 LO7 LO8 LO9 LO10

This section will take you through the accounting cycle from source document to the preparation of the financial statements. Each step in the accounting cycle will be explained in this section and then a comprehensive example working through each of the steps will be covered in section 4.4.

The accounting cycle

Figure 4.2 shows the sequence of accounting procedures from the original documentary evidence of a transaction (source documents) to the preparation of financial statements.

1 Source documents
↓
2 Prepare journal entries
↓
3 Post to ledgers
↓
4 Prepare a trial balance
↓
5 Prepare adjusting journal entries and post to ledgers
↓
6 Prepare an adjusted trial balance
↓
7 Prepare closing journal entries and post to ledgers
↓
8 Prepare a post-closing trial balance
↓
9 Prepare the financial statements

FIGURE 4.2 Steps in the accounting cycle

The source documents are the basis for journal entries, which in turn are posted to the general ledger accounts as a means of summarising the transactions. A trial balance is then taken out to ensure that the total of the debits equals the total of the credits. End-of-period accruals, corrections and other adjustments (covered in detail in Chapter 5) are then incorporated via additional journal entries. A post-adjustment trial balance is taken out to ensure the total of the debits still equals the total of the credits. Further journal entries then close the revenue and expenses to retained profits to make all of those accounts' balances zero in preparation for the next period's step 1. (The balance sheet accounts continue into the next period and so are not closed.) Financial statements are then prepared.

The underlying accounting system

This section summarises some of the mechanics of the accounting system behind steps 1 to 9 in Figure 4.2, to show you how transactions are summarised into the financial statements. Keep in mind, though, that this is a basic description: much has been left out in order to keep the portrayal clear. These days, for most companies, many of the 'books' referred to below are actually electronic records in computer systems.

Step 1: Source documents

Accounting record-keeping depends upon sets of documents to show that transactions have occurred. Such documents are kept so that the accounting records can be checked and verified to correct errors. They also permit auditing, and can be used if there is a dispute or to support income tax claims and other legal actions. The transactions themselves reflect various events in operating a business. Here are some examples from a real company, Labelcraft Pty Ltd.[1]

1 Labelcraft, a manufacturer of self-adhesive labels and cartons, is located in Sydney. To manufacture these products it orders ink, paper and cardboard, among other things. Ordering the kinds of materials it needs to produce products customers will want is an important early step. Ordering is not an accounting transaction, so orders are not recorded in the accounts, but documenting and keeping track of them is very important to Labelcraft, so it uses purchase order forms for this through its online system for ordering (this is very similar to when you order online and items go to a shopping cart). The items ordered are listed in detail so they can be checked against what actually arrives from the supplier. The amount of goods and services tax (GST) is added. The accounting entries for GST are covered in Chapter 11.

2 When ordered items arrive, they are checked against purchase orders and the supplier's packing slips, to ensure all is correct. When Labelcraft accepts a delivery, this is an accounting transaction, and a purchases record is created to support the transaction *debit Inventory (asset)* and *credit Accounts payable (liability)*. If the company needed to return some goods to suppliers, it is recorded as well, in just the opposite way: *credit Inventory* and *debit Accounts payable*.

3 When Labelcraft pays the supplier, it is usually by electronic transfer of funds (or for some small suppliers a cheque is written). A copy of that is the source document for recording the transaction *debit Accounts payable* and *credit Cash (bank)*.

4 Selling the products is what Labelcraft is in business to do. When a sale is made, a sales invoice is prepared, specifying various useful details. A copy of this invoice supports the transaction *debit Accounts receivable* and *credit Sales revenue*. (Through the company's computerised inventory system, the sales invoice also supports recording the cost of the goods taken by the customer, *debit Cost of goods sold expense* and *credit Inventory*.) You will cover the cost of goods sold calculation for a manufacturing firm in a course on management accounting (for more information on management accounting, log on to CourseMate and see this text's Management Accounting supplement). It is determined based on the amount of material, labour and overhead incurred in the production process. The amount on the invoice will include GST. For example, if the total amount charged is $707.30, it includes $64.30 GST. In effect, Labelcraft is collecting this amount on behalf of the government. While the entries will be shown in more detail in Chapter 11, the journal entry will be: *debit Accounts receivable $707.30* (i.e. the amount owed by the debtor), *credit Sales revenue by $643.00* (i.e. revenue earned by the company) and *credit GST liability account with $64.30* (i.e. the amount being collected in GST on behalf of the government).

5 Collecting from customers is the last event we illustrate. When a customer pays Labelcraft, the payment is listed in the day's collections. That list is the source document to support the transaction *debit Cash (bank)* and *credit Accounts receivable*. It also supports the bank deposit made that day, so that if there are problems, someone can start with the monthly bank statement and trace the deposits shown on it back to the payments by individual customers.

6 Labelcraft, like many businesses, relies on credit cards and electronic funds transfer for customers' payments on some sales. When a customer pays by credit card Labelcraft would have an electronic copy of the payment. Some customers pay Labelcraft by electronic funds transfer (EFT) which has become very common for many organisations, both large and small. Without keeping track of EFTs and credit card payments, Labelcraft would have little idea of what its bank balances should be.

Labelcraft also uses other kinds of documents. It has more electronic transfers; for example, paying all employees by direct deposit into their bank accounts. There are many kinds of documents used by various companies. Each company adapts documents to its own needs, especially to provide legal and taxation evidence and to support accounting transactions records. You can count on two things regarding any company, government, sports club or other organisation: (1) it will have various documents to back up its accounting system; and (2) those documents will be suited to that organisation and so might not be quite like those of any other organisations.

Step 2: Prepare journal entries

Based on source documents, accounting transactions are recorded by preparing journal entries. Because this is when the business event is first recorded by the accounting system, these basic transactional records are often called books of original entry.

Journal entries were introduced in Chapter 3 to illustrate the use of debits and credits. Journal entries provide, in chronological order, a record of all the transactions recorded by an organisation. Journal entries can take many different forms, depending on such factors as the size of the organisation, the frequency of transactions and the frequency of providing reports. In this section we describe the simplest form, known as a general journal entry. You had some practice in preparing journal entries in Chapter 3, but it is worth reinforcing here. Consider the following transactions:

- A consulting company provides services to a client on 1 February and sends it an invoice (source document) for $10 000.
- The company buys a motor vehicle for $30 000 on 3 February, paying $12 000 cash and owing $18 000 to be paid in two years.

These would be recorded as follows:

	Date	Particulars	Debit	Credit
1	1 Feb 2019	Accounts receivable	10 000	
		Consulting revenue		10 000
Consulting services rendered on credit				
2	3 Feb 2019	Motor vehicle	30 000	
		Cash		12 000
		Long-term loan		18 000
Purchased a motor vehicle, paying $12 000 cash with remaining $18 000 to be paid in two years.				

Note that an alternative format for the journal entries often puts the debit (DR) and credit (CR) before each account rather than as headings to the right-hand column. This is the format we showed you in chapter 3. For example:

1 Feb	DR	Accounts receivable	10 000	
	CR	Consulting revenue		10 000

Both methods are acceptable.

From the above journal entries, the following should be noted:

- All journal entries have one or more accounts debited and one or more accounts credited. A journal entry can list as many accounts as are needed to record the transaction, but each journal entry must be recorded so that the sum of the debits equals the sum of the credits for that entry. If not, the accounting equation will not be maintained (the books will not balance).
- It is traditional for the debits to be listed first in each journal entry and for the debits to be written to the left and the credits to the right. Neither of these is arithmetically necessary, but keeping a consistent style helps keep the records understandable.
- It is common to omit the dollar signs in writing the entries. The transaction has to be measurable in dollars, so putting in dollar signs is thought to be redundant.
- It is also traditional to write a short explanation called a narration below each entry as a memorandum of what the recorded transaction was about. Again, this is not necessary, but it helps to make the record understandable.
- Every journal entry should also be dated, and is usually numbered, so there is no doubt about when the transaction was recorded. The date can have important legal and tax implications, and, of course, it is necessary to know which financial period a transaction belongs to when financial statements are being prepared.
- A posting reference is given to indicate the ledger account to which each journal entry is posted. This number can be obtained from the company's chart of accounts. In deciding what accounts to use, accountants develop a chart of accounts and use it to determine the name of the account that is affected by a transaction. A chart of accounts is a listing of the titles of all accounts. For example, assets may be numbered 1 to 99, liabilities 100 to 199, shareholders' equity 200 to 299, revenues 300 to 399 and expenses 400 to 499. This allows room for expansion over time as new account titles are required for new types of transactions. An illustration is provided in section 4.4.

Organisations with many transactions to record – this is most organisations – do not create a separate journal entry for each transaction, but instead use special records for each frequent, routine kind of transaction, such as a sales journal, a cash receipts journal, a cash payments journal and a purchases journal. These are illustrated in Chapter 8.

Almost all bookkeeping systems are computerised. These systems may or may not produce records that look like the preceding examples, but they have the same arithmetical objective of keeping all the debits equal to all the credits. You saw spreadsheet examples in Chapter 3, but spreadsheets are a little cumbersome for handling large numbers of transactions, so most organisations use special accounting software.

HOW'S YOUR UNDERSTANDING?

4B What is the journal entry for:

(i) a credit sale of goods for $80 000 that cost $50 000?

(ii) a cash sale of goods for $40 000 that cost $25 000?

Step 3: Post to ledgers

Firstly we will introduce you to ledgers and then we will work through how to post from journal entries to ledgers. Consider a situation where, during the month, thousands of journal entries were written, of which 20 per cent included either a debit or credit to the cash account. If you were asked the balance of the cash

account at the end of the month, how would you find out? One option is to get the opening balance, add on all debit entries affecting cash and deduct all credit entries affecting cash. But doing this is time-consuming, and it would be preferable to have a source that will give you the balance of the account at any point in time. Such a source is a ledger. Ledgers are books (or computer records) that have a separate page or account code for each individual account referred to in the chart of accounts. Each area or page contains a summary of all the transactions relating to that particular account and, therefore, posted to it.

Here is an example of the 'cash at bank' ledger account for a company:

Cash at bank					
Date	**Description**	**Entry no.**	**Debits**	**Credits**	**Balance**
02/12/19	First deposit	1	10 000		10 000 DR
02/12/19	Deposit	3	1 146		11 146 DR
02/12/19	Cheque	7		678	10 468 DR
02/12/19	Cheque	8		2 341	8 127 DR

Each ledger account is really just a convenient summary of the entries affecting it. In turn, the balance sheet is a summary of all the account balances. The general ledger is the complete set of all the accounts (assets, liabilities, equity accounts, revenues and expenses) that lie behind the financial statements.

You might want to think of the ledger as a set of account pages (real pages, such as in the bound books the bookkeepers of old used, or representations in a computer system), such as the one above, in which the sum of all the debit balance accounts equals the sum of all the credit balance accounts. The picture in Figure 4.3, using the accounting equation format and including the cash in bank account above, might be useful.

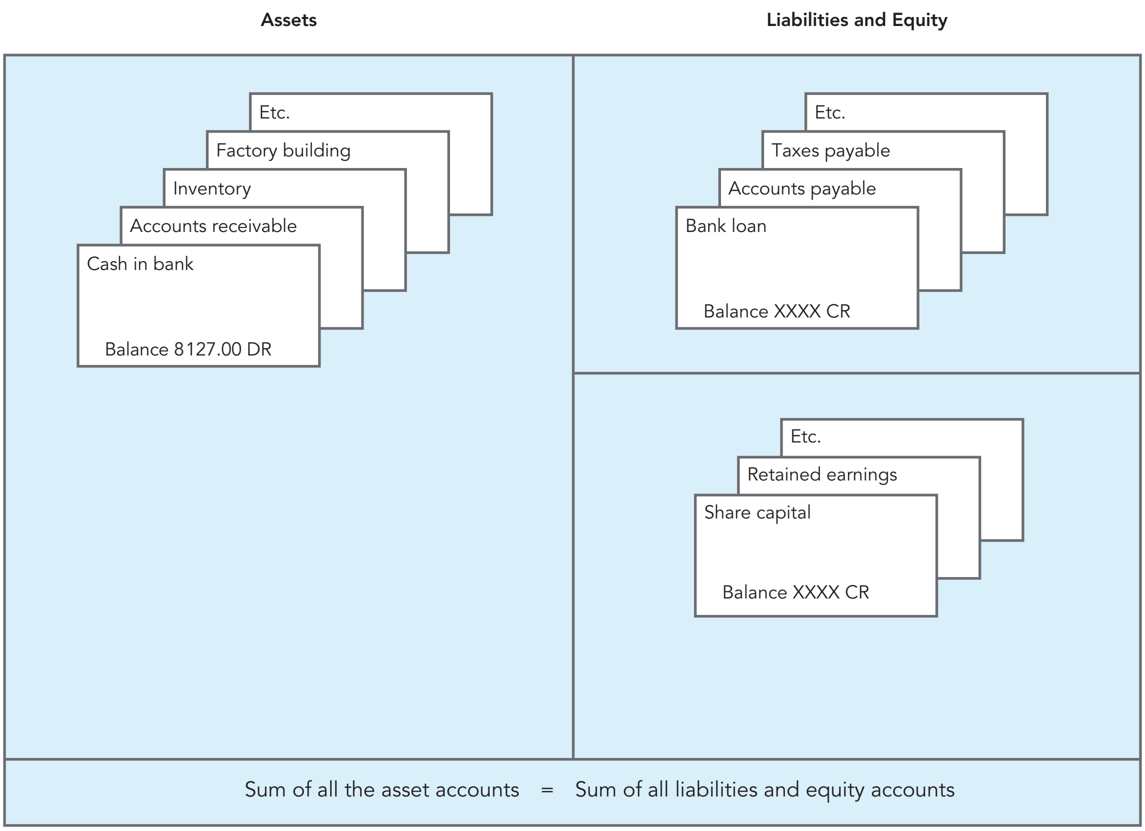

FIGURE 4.3 Ledgers

Figure 4.3 shows the balance sheet ledger accounts. There will also be ledger accounts for income statement accounts.

For demonstration and analysis purposes, accountants and accounting instructors often use a simplified version of a ledger account called a T-account, which includes only the debits and credits columns of the account, without calculating the balance after every entry. A T-account version of the above cash account example would look like this:

Cash at bank	
DR	**CR**
10 000	678
1 146	2 341
8 127	

The balance of $8127 is simply the amount by which the debit entries exceed the credit entries.

Note that the normal balance of asset accounts is a debit and the normal balance of liabilities and equity accounts is a credit balance. (Also note that, as revenues increase equity, their normal balance is a credit and, as expenses reduce equity, their normal balance is a debit.)

By convention, left-hand entries to ledgers are called debits and right-hand entries are called credits. Here is an example of some T-accounts:

Cash	
DR	**CR**

Loans	
DR	**CR**

Recall our earlier debit/credit conventions from Chapter 3:

- For asset and expense accounts, increases are recorded on the left-hand side (i.e. debit) and decreases are recorded on the right-hand side (i.e. credit).
- For liabilities, shareholders' equity and revenue accounts the opposite occurs. Increases are recorded on the right-hand side (credit) and decreases are recorded on the left-hand side (debit).

In addition when creating T-accounts:

- Balance sheet accounts will normally have an opening balance brought over from the closing balance of last period. You will then have a closing balance for this period at the bottom of the T-account
- Income statement accounts will not have an opening balance as they were closed off and brought down to zero in the last period (see Step 7: Closing entries for further details). If multiple entries have been made in the T-account the account can be balanced before it is closed off for this period.

Now that we have looked at what a ledger is and introduced you to T-accounts we will cover how to post journal entries to ledger accounts. Posting from the journal to the ledger is very mechanical. You simply do what the journal entry tells you to do; that is, if it says debit cash for $100, you place $100 on the debit side of the cash ledger account. To illustrate, we will post the two journal entries from the previous section.

The journal entries from the general journal have been repeated in Figure 4.4. Each entry has then been posted into the relevant T-account.

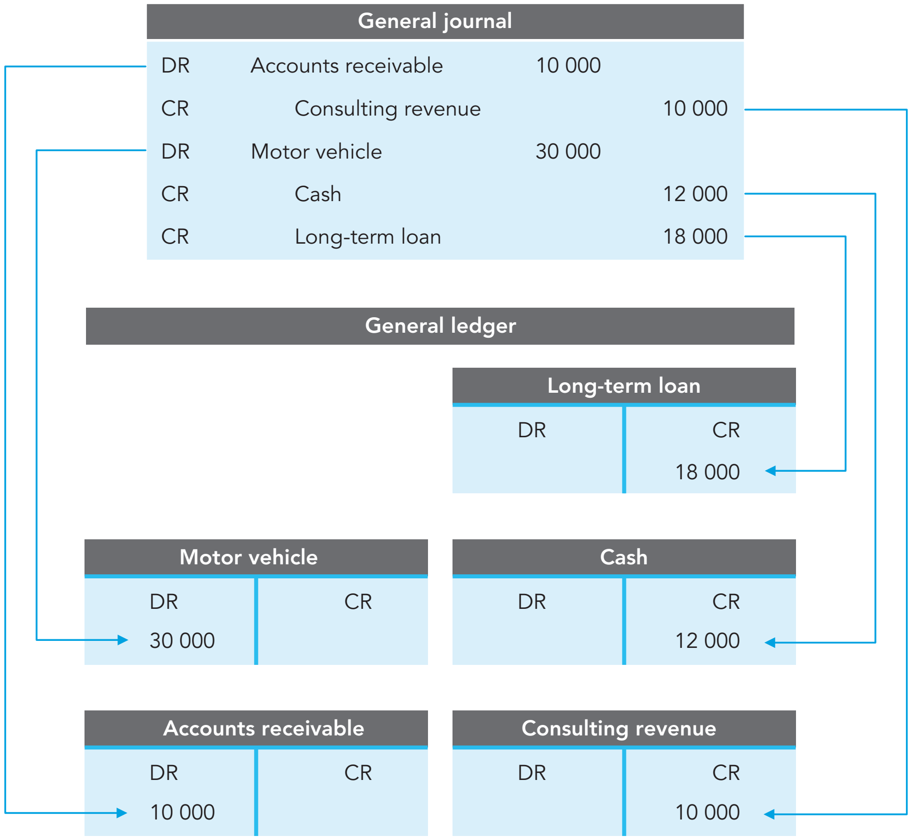

FIGURE 4.4 Journal and ledger entries

At this point you may be questioning why we need journal entries at all; that is, why not recognise a transaction, then put it straight onto the ledger? The reason is that we want to have a complete record of all transactions, and the general journal does give us that. Each ledger account only records part of the transaction, so we would not have the whole transaction shown together.

The ledger accounts referred to above are called general ledgers – the collection of all the asset, liability, equity, revenue and expense accounts, summarising the entire operations of the business. The general ledger is the central record of the financial accounting system, and is the base from which the financial statements are prepared.

In addition to the general ledger, most companies will maintain various subsidiary ledgers; accounts receivable and accounts payable ledgers are two examples of subsidiary ledgers. For instance, if a company extends credit to its customers, it may want to keep a separate ledger account for each customer. These ledgers are balanced by making sure that their accounts add up to the same amount as is shown in the relevant general ledger account; for example, the accounts receivable 'control' account in the general ledger, which is the account used to prepare the financial statements, should have the same balance as the sum of customers' individual accounts. A subsidiary ledger does not 'balance' by having its debits equal its credits, but rather by having its sum equal the amount in the primary (control) account in the general ledger. Ensuring this is true is an important way of making certain that individual customer accounts receivable, for example, are correct. Subsidiary ledgers, therefore, are part of the internal control system; their details are not in the financial statements but they support the validity of the main 'control' account that does appear in the financial statements. Subsidiary ledgers are discussed further in Chapter 8 and under internal control in Chapter 7.

AN EXAMPLE ON LEDGERS

The basic purpose of ledgers is to accumulate journal entries related to each account and thus provide a summary of all transactions impacting a particular account (e.g. cash, inventory, accounts payable). As you work through this book there will be many occasions where you need to construct a ledger account, in the form of a T-account to find certain information.

Let's start with a very simple example where the company has only two opening balances:

	DR	CR
Cash	100 000	
Share capital		100 000

During the month the following transactions occur:

1. Cash sale of a service, $200.
2. Credit sale of a service, $8000.
3. Paid wages, $5000.

Each of these three transactions would be recorded as follows in the general journal:

General journal				
1	DR	Cash	200	
	CR	Sales revenue		200
2	DR	Accounts receivable	8000	
	CR	Sales revenue		8000
3	DR	Wages expense	5000	
	CR	Cash		5000

The above journal entries would then be posted to the ledger accounts. The ledger accounts would appear as follows (the type of account has been put in brackets and the reference to the transaction has also been included in brackets):

GENERAL LEDGER

Cash (A)			
	DR		CR
OB	100 000		5 000 (3)
	(1) 200		
CB	95 200		

Share capital (SE)			
	DR		CR
		OB	100 000

Sales revenue (R)	
DR	CR
	200 (1)
	8 000 (2)
	8 200

Accounts receivable (A)	
DR	CR
(2) 8 000	

Wages expense (E)	
DR	CR
(3) 5 000	

Note, in the above T-accounts and others within this book OB represents 'opening balance' and CB represents 'closing balance'. Remember you will only see these for balance sheet accounts.

Sometimes ledger accounts can be used to find missing information. For example, you may know from the balance sheet that the opening and closing balances of inventory are $8000 and $10 000, respectively. From the income statement you can see that cost of goods sold is $4000. Recall that when goods are sold, inventory decreases (i.e. CR inventory) and COGS increases (i.e. DR COGS). From the ledger account of inventory we can determine the dollar amount of goods purchased (i.e. DR Inventory CR Accounts payable, assuming all inventory is purchased on credit):

Inventory		
	DR	CR
OB	8 000	4 000
Purchases	?	
CB	10 000	

8000 + purchases − 4000 = 10 000

Therefore, purchases = 6000

HOW'S YOUR UNDERSTANDING?

4C Provide an example of a transaction which will increase and decrease the balance in the following accounts:

(i) Accounts receivable

(ii) Inventory

4D Create T-accounts for cash (opening balance $4000), inventory (opening balance $2000), sales revenue and COGS and then post the following from the general journal to the ledger accounts.

10 Feb 2019	DR	Cash	1500	
	CR	Sales revenue		1500
	DR	COGS	1100	
	CR	Inventory		1100

Step 4: Prepare a trial balance

A trial balance is a list of all the accounts and the balances of each of the accounts. The aim is that the sum of the debit balances equals the sum of the credit balances. Because the general ledger contains all the accounts, all of which came from balanced journal entries, it must balance (sum of debit-balance accounts equalling sum of credit-balance accounts) and it leads to a balanced balance sheet. Because errors might have been made, a standard bookkeeping procedure is to check that the ledger does balance by adding up all the debit and all the credit account balances and making sure the two totals are equal. There is always a little uncertainty that this will work, so the calculation is called a trial balance.

An example of a trial balance is shown in Exhibit 4.1.

EXHIBIT 4.1

TRIAL BALANCE

AS AT 30 JUNE 2019

	DR $	CR $
Cash	15 000	
Accounts receivable	65 000	
Inventory	130 000	
Accounts payable		40 000
Sales		100 000
Wages expense	30 000	
Other expenses	20 000	
Share capital		100 000
Retained profits		20 000
	260 000	260 000

The above trial balance is for a company with only a very small number of accounts. In practice, the trial balance would include a balance of every account included in the company's chart of accounts.

You need the trial balance to balance before moving onto the next step of the accounting cycle; if not, you may carry an error through to the financial statements. So what would you do if your trial balance didn't balance? Here are some steps to follow:

- Re-add the trial balance.
- Check you have included the balance in the correct debit or credit column.
- Check that you balanced each ledger account correctly.
- Check that you posted the correct amounts in the journal entries to the correct side of the ledger account.
- Check that each journal entry balances (i.e. DR = CR).
- Determine how much the difference between the debits and credits is, and look for an account with that balance. This would indicate you have left this ledger balance out. Also, look for a journal entry with that amount, as this would indicate you have not posted one side of the entry.
- Divide the difference by 2 and look for a journal entry for that amount. It is likely that the amount is posted to the wrong side of the account.
- If the difference is divisible by 9, it is likely a transposition error has been made; for example, 21 instead of 12, 72 instead of 27.

Not all errors that are made will be picked up by the trial balance. Consider the journal entry:

DR	Accounts receivable	10 000	
CR	Consulting revenue		10 000

If the following errors were made, would the trial balance still balance?

- The journal entry was not posted.
- The journal entry was posted by debiting consulting revenue and crediting accounts receivable.
- The accounts receivable amount was correctly posted, but the consulting revenue amount was posted to share capital by mistake.
- $1000 is posted instead of $10 000 for both accounts.

In all four cases, the trial balance will still balance!

HOW'S YOUR UNDERSTANDING?

4E Which of the following accounts normally have a CR balance?

- **(i)** Inventory
- **(ii)** Sales
- **(iii)** COGS
- **(iv)** Wages expense
- **(v)** Wages payable
- **(vi)** Share capital
- **(vii)** Accounts receivable
- **(viii)** Accounts payable

4F Which of the following errors would be identified by a trial balance?

- **(i)** A journal entry was incorrectly recorded as DR to cash rather than a DR to accounts receivable.
- **(ii)** A journal entry was incorrectly posted to the general ledger as a DR to cash rather than a DR to accounts receivable.
- **(iii)** A journal entry was incorrectly posted to the general ledger as a CR to cash rather than a DR to cash.

Step 5: Prepare adjusting journal entries and post to ledgers

At the end of each accounting period, it is necessary to adjust the revenue and expense accounts (and the related asset and liability accounts) to reflect expenses incurred but not yet paid, revenues earned but not yet received, cash received from customers before the work being done, and the using up of assets, which creates an expense (such as depreciation).

It is all about splitting an expense or revenue item across two different accounting periods. For example, an insurance payment could be made in March 2019 covering 1 April 2019 to 30 March 2020. At 30 June 2019, accounts have to be adjusted to reflect that 25 per cent of the payment is a 2019 expense and 75 per cent is a 2020 expense. Assuming that the payment for insurance (say, $200 000) was put to an asset account in March (i.e. DR prepayments $200 000, CR cash $200 000), at 30 June it is necessary to reduce the asset (prepayments) to reflect that part of the asset is used up. Therefore:

30 June 2019	DR	Insurance expense	50 000	
	CR	Prepayments		50 000

This adjusting entry would be posted to the relevant ledger accounts.

Here are some other adjusting entries that you have been introduced to in earlier chapters:

- accrued expenses such as wages earned during the year but not paid at year-end (called 'wages payable' or 'accrued wages')
- interest revenue earned during a period but not received by year-end (called 'interest receivable' or 'accrued interest revenue')
- cash received for a service but the service has not been provided by year-end (called unearned revenue or revenue received in advance)
- depreciation expenses.

These adjustments are important in accrual accounting and will be discussed in detail in Chapter 5.

Step 6: Prepare an adjusted trial balance

After all the adjusting entries have been made and posted to the ledger accounts, then another trial balance called an adjusted trial balance can be prepared. You will follow the same process as described previously in step 4.

Step 7: Prepare closing journal entries and post to ledgers

To facilitate the preparation of the financial statements and to prepare the accounting records to begin the next period, a company may prepare closing entries. Closing entries formally transfer the balances of the revenue and expense accounts to a profit and loss (P & L) summary, then to retained profits. This step will occur at the end of the accounting period.

Closing entries reset the revenue and expense account balances to zero to begin recording these items for the next accounting period.

Closing entries are simple to prepare. The steps are outlined below:

- Revenue accounts have credit balances and are closed (reduced to zero) with debits to the revenue accounts and a credit to the P & L summary account.
- Expense accounts have debit balances and are closed (reduced to zero), with credits to the expense accounts and debits to the P & L summary account.
- The P & L summary account, which is simply a holding account, is then closed off to retained profits. If the P & L summary has a credit balance after closing off the revenues and expenses (i.e. a profit has been made), the entry is debit P & L summary and credit retained profits. If the account has a debit balance (i.e. a loss has been made), the entry is a credit to P & L summary and a debit to retained profits.

To illustrate closing entries, we will use the trial balance from Exhibit 4.1 as an example. The only accounts that need to be closed off are the revenue and expense accounts (asset, liability and share capital accounts are carried forward as opening balance of the following period).

At 30 June 2019, the ledger accounts will appear as follows:

Sales	
DR	CR
	100 000

Wages expense	
DR	CR
30 000	

Other expenses	
DR	CR
20 000	

To get the sales account back to zero, we would need to debit it with a corresponding credit to P & L summary. To get the expense accounts back to zero, we would have to credit both these accounts and, correspondingly, debit the P & L summary account. This would result in the following journal entries:

30 June 2019	DR	Sales	100 000	
	CR	P & L summary		100 000
	DR	P & L summary	50 000	
	CR	Wages expense		30 000
	CR	Other expenses		20 000

At this point sales, wages expense and other expenses have zero balances, while P & L summary has a credit balance of $50 000. The P & L summary would then be closed by debiting it (the P & L summary will have a credit balance in the case because revenues are greater than expenses in this example) and crediting retained profits. To clear it, the following entry is prepared:

30 June 2019	DR	P & L summary	50 000	
	CR	Retained profits		50 000

The above journal entries would then be posted to the ledger accounts. After the closing entries the ledger accounts would appear as:

P & L summary	
50 000	100 000
50 000	
0	

Retained profits		
	OB	20 000
		50 000
	CB	70 000

Sales	
DR	CR
100 000	100 000

Wages expense	
DR	CR
30 000	30 000

Other expenses	
DR	CR
20 000	20 000

HOW'S YOUR UNDERSTANDING?

4G Prepare closing entries based on the below trial balance.

GENERAL LEDGER TRIAL BALANCE 30 SEPTEMBER 2016

	DR $	CR $
Cash (bank)	5 522	
Equipment	660	
Accumulated depreciation		132
Accounts payable		940
Share capital		1 450
Sales revenue		5 737
Interest revenue		20
Depreciation expense	132	
Rent expense	420	
Other expenses	850	
Travel expense	695	
Totals	8 279	8 279

Step 8: Prepare a post-closing trial balance

A post-closing trial balance can now be prepared as follows:

	DR	CR
Cash	15 000	
Accounts receivable	65 000	
Inventory	130 000	
Accounts payable		40 000
Share capital		100 000
Retained profits		70 000
	210 000	210 000

You will note that there are no revenue and expense accounts in the above post-closing trial balance as these accounts have been closed off in the previous step. If there is a revenue or expense account listed, a closing entry may have been missed; this should be resolved before preparing the financial statements.

Step 9: Prepare the financial statements

The items in the P & L summary account can be used as a basis for preparing the income statement, and the items in the post-closing trial balance can be used to prepare the balance sheet. These statements are shown in Exhibit 4.2.

EXHIBIT 4.2

FINANCIAL STATEMENTS

INCOME STATEMENT FOR THE PERIOD ENDING 30 JUNE 2019

	$	$
Sales		100 000
Less Operating expenses:		
Wages	30 000	
Other	20 000	50 000
Net profit		50 000

BALANCE SHEET AS AT 30 JUNE 2019

Assets	
Cash	15 000
Accounts receivable	65 000
Inventory	130 000
Total assets	210 000
Liabilities	
Accounts payable	40 000
Shareholders' equity	
Share capital	100 000
Retained profits	70 000
Total liabilities and shareholders' equity	210 000

HOW'S YOUR UNDERSTANDING?

4H Your bookkeeper rushes into your office to apologise for the fact that posting of cash sales to the general ledger has been accidentally forgotten for that month. The journal showed that cash received from cash sales during the month was $6782. Which ledger accounts would be incorrect because of the error, and by how much? Would a trial balance have picked up this error?

LO4 LO5 LO6 LO7 LO8 LO9 LO10

4.4 An illustrative example

Record-keeping examples were used in prior chapters without exactly calling them that. Therefore, to help you anchor your knowledge, let's examine a specific example and follow the business events of a company from transactions through to the financial statements. The purpose of this example is to reinforce the processes of preparing journal entries and posting to ledgers. In addition, the use of a chart of accounts and the use of reference numbers as a means of cross-referencing when posting journal entries are introduced.

Reval Ltd is an importer and wholesaler of sporting goods to major department stores and specialist sporting goods retailers. The company commenced business last year. The chart of accounts for Reval Ltd is as follows:

Chart of accounts	
Assets (1–99)	
Cash	1
Accounts receivable	2
Inventory	5
Prepayments	8
Other assets	10
Land	40
Buildings	42
Accumulated depreciation – buildings	43
Plant and equipment	50
Accumulated depreciation – plant and equipment	51
Liabilities (100–199)	
Accounts payable	100
Salaries payable	105
Notes payable	111
Accrued expenses	115
Long-term loan	140
Mortgage loan	145
Shareholders' equity (200–299)	
Share capital	200
Retained profits	210
Revenue (300–399)	
Sales	300
Interest revenue	305
Consulting revenue	310
Expenses (400–499)	
Cost of goods sold	400
Wages	404
Staff training	407
Electricity	408
Rent	415
Interest	419
Depreciation	430
Municipal rates	438
Repairs and maintenance	440
Miscellaneous	460
Other	
P & L summary	500

The trial balance at 30 April 2019 was as follows:

	DR $	CR $
Cash	25 000	
Accounts receivable	65 000	
Inventory	50 000	
Accounts payable		21 000
Share capital		100 000
Retained profits		19 000
	140 000	140 000

During the month of May, the following transactions occurred:

Date	Transaction no.	Transaction
May 1	1	Credit sales of $50 000. The cost of the goods sold was $28 000.
4	2	Paid accounts payable of $15 000.
6	3	Purchased additional inventory for $20 000 on credit.
8	4	Five staff attended a seminar on understanding financial statements. The total bill received was for $3000.
11	5	Received $30 000 for an account receivable.
18	6	Of the goods purchased on 6 May, goods which cost $2000 were returned to the supplier as they were damaged.
20	7	A local electrician carried out repairs. A cheque for $500 was paid to the electrician.
24	8	Cash sales of $20 000 (COGS $11 200).
25	9	Purchased land for $40 000 cash and obtained a bank loan of $35 000. The bank holds a first mortgage over the land.
26	10	Paid the monthly wages bill of $12 000.
30	11	Purchased equipment for $30 000, paying $20 000 cash and agreeing to pay the remainder in two years' time. The equipment has a useful life of 5 years and will start to be used on 1 June 2019.
31	12	Received the electricity bill of $2000, which covered the month of May. It will not be paid for another week.

Step 1: Source documents

For this example, let's assume source documents have been adequately kept. This could be in either paper or electronic form.

Step 2: Prepare journal entries

The general journal entries are shown in Exhibit 4.3. Posting references have been included as a cross-reference to the account to which the amount will be posted. The reference numbers are obtained from the chart of accounts. A narration for each entry has not included for this example.

EXHIBIT 4.3

REVAL LTD

GENERAL JOURNAL

No.	Date		Description	Posting reference		
1	1 May	DR	Accounts receivable	2	50 000	
		CR	Sales	300		50 000
		DR	COGS	400	28 000	
		CR	Inventory	5		28 000
2	4 May	DR	Accounts payable	100	15 000	
		CR	Cash	1		15 000
3	6 May	DR	Inventory	5	20 000	
		CR	Accounts payable	100		20 000
4	8 May	DR	Staff training	407	3 000	
		CR	Accounts payable	100		3 000
5	11 May	DR	Cash	1	30 000	
		CR	Accounts receivable	2		30 000
6	18 May	DR	Accounts payable	100	2 000	
		CR	Inventory	5		2 000
7	20 May	DR	Repairs and maintenance	440	500	
		CR	Cash	1		500
8	24 May	DR	Cash	1	20 000	
		CR	Sales	300		20 000
		DR	COGS	400	11 200	
		CR	Inventory	5		11 200
9	25 May	DR	Land	40	40 000	
		CR	Cash	1		40 000
		DR	Cash	1	35 000	
		CR	Mortgage loan	145		35 000
10	26 May	DR	Wages	404	12 000	
		CR	Cash	1		12 000
11	30 May	DR	Plant and equipment	50	30 000	
		CR	Cash	1		20 000
		CR	Long-term loan	140		10 000
12	31 May	DR	Electricity	408	2 000	
		CR	Accounts payable	100		2 000

While many of the above transactions should be familiar to you by now, some need additional emphasis and some are new. These are explained below. Note that in deciding which account names to use in the journal entries it is necessary to refer to the chart of accounts.

- Transaction 1 involves credit sales, which results in accounts receivable (an asset) increasing and sales (a revenue item) increasing. As the items sold had a cost, an expense (cost of goods sold) is increased and inventory (an asset) will decrease.
- Transaction 2 reduces an asset (cash) and reduces a liability (accounts payable).
- Transaction 3 increases an asset (inventory) and increases a liability (accounts payable).

- Transaction 4 involves an increase in an expense and an increase in a liability, as the bill has not yet been paid. In deciding what expense account should be debited (i.e. what to call the expense), it would be necessary to check the list of expenses in the chart of accounts. Staff training costs appears to be an appropriate account in which to put the cost of staff attending seminars.
- Note that, for transaction 5, no revenue is recognised as this occurred previously – when the sale was made. The transaction simply converts one asset (accounts receivable) into another asset (cash).
- Transaction 6 involves the reversal of part of transaction 3. As part of the inventory is returned, the inventory balance reduces and the amount owing as accounts payable reduces.
- Transaction 7 involves some electrical repairs, and the appropriate expense account is repairs and maintenance.
- Transaction 8 is the same as transaction 1, except that cash instead of accounts receivable is debited.
- Transaction 9 is divided into two parts: the purchase of the land and the obtaining of a loan. There are two account names in the chart of accounts that would be reasonable descriptions of the loan: long-term loan and mortgage loan. As the bank has taken out a mortgage over the land, the second description appears preferable.
- Transaction 10 involves the payment of an expense. There is no indication that an expense (and a liability) was previously recognised (such as wages payable) in the opening trial balance.
- Transaction 11 involves the purchase of an asset (equipment) with the reduction of another asset and the creation of a liability (long-term loan).
- In transaction 12, the bill has been received and it relates to the month of May. The expense should therefore be recognised in May.

Step 3: Post to ledgers

To post these journal entries to the ledger accounts, the T-account format of ledgers will be used (see Exhibit 4.4). Only ledger accounts with an opening balance or ones affected by the transactions are shown below. They are recorded in the same order as they appear in the chart of accounts. The first step is to include the opening balances from the trial balance. Second, each journal entry is posted. Third, each account balance is calculated. Fourth, a new trial balance is prepared.

EXHIBIT 4.4

REVAL LTD

GENERAL LEDGER

Cash					1
30/4		25 000	1/5	(2)	15 000
11/5	(5)	30 000	20/5	(7)	500
24/5	(8)	20 000	25/5	(9)	40 000
25/5	(9)	35 000	26/5	(10)	12 000
			30/5	(11)	20 000
31/5		22 500			

Accounts receivable					2
30/4		65 000	11/5	(5)	30 000
1/5	(1)	50 000			
31/5		85 000			

Inventory					5
30/4		50 000	1/5	(1)	28 000
6/5	(3)	20 000	18/5	(6)	2 000
			24/5	(8)	11 200
31/5		28 800			

Land					40
25/5	(9)	40 000			

Plant and equipment					50
30/5	(11)	30 000			

Accounts payable					100
4/5	(2)	15 000	30/4		21 000
18/5	(6)	2 000	6/5	(3)	20 000
			8/5	(4)	3 000
			31/5	(12)	2 000
			31/5		29 000

Long-term loan					140
			30/5	(11)	10 000

Mortgage loan					145
			25/5	(9)	35 000

Share capital					200
			30/4		100 000

Retained profits					210
			30/4		19 000

Sales					300
			1/5	(1)	50 000
			24/5	(8)	20 000
					70 000

Cost of goods sold					400
1/5	(1)	28 000			
24/5	(8)	11 200			
		39 200			

Wages					404
26/5	(10)	12 000			

Staff training					407
8/5	(4)	3 000			

Electricity					408
31/5	(12)	2 000			

Repairs and maintenance					440
20/5	(7)	500			

To illustrate how to balance accounts, the cash account will be used as an example. When the total debits exceed the total credits, the account will have a debit closing balance. Alternatively, if the total credits exceed the total debits, the account will have a closing credit balance. In this case, the total of the debits is $110 000 and the total of the credits is $87 500. Therefore, the closing balance will be a debit of $22 500.

Step 4: Prepare a trial balance

The trial balance in Exhibit 4.5 shows that the debits total equals the credits total.

EXHIBIT 4.5

REVAL LTD

TRIAL BALANCE AT 31 MAY 2019

	Debit $	Credit $
Cash	22 500	
Accounts receivable	85 000	
Inventory	28 800	
Land	40 000	
Plant and equipment	30 000	
Accounts payable		29 000
Long-term loan		10 000
Mortgage loan		35 000
Share capital		100 000
Retained profits		19 000
Sales		70 000

COGS	39 200	
Wages	12 000	
Staff training	3 000	
Electricity	2 000	
Repairs and maintenance	500	
	263 000	263 000

Step 5: Prepare adjusting journal entries and post to ledgers

In this example there are no adjusting entries to prepare. Depreciation expense does not need to be calculated for May because as stated in transaction 11 the equipment will not be used until 1 June. Examples for adjusting entries will be covered in Chapter 5.

Step 6: Prepare an adjusted trial balance

As per step 5 there were no adjusting entries so the trial balance created in step 4 is unchanged.

Step 7: Prepare closing journal entries and post to ledgers

The closing entries will formally transfer the balances of the revenue and expense accounts to the P & L summary and then to retained profits. From the trial balance in step 4 we can see the revenue account of sales and the expense accounts of COGS, wages, staff training, electricity and repairs and maintenance are to be closed off. Exhibit 4.6 shows the closing entries to be added to the general journal.

EXHIBIT 4.6

REVAL LTD

GENERAL JOURNAL

No.	Date		Description	Posting reference		
13	31 May	DR	Sales	300	70 000	
		CR	P & L summary	500		70 000
		DR	P & L summary	500	56 700	
		CR	COGS	400		39 200
		CR	Wages	404		12 000
		CR	Staff training	407		3 000
		CR	Electricity	408		2 000
		CR	Repairs and maintenance	440		500
14	31 May	DR	P & L summary	500	13 300	
		CR	Retained profits	210		13 300

The amount closed to retained profits from the P & L summary is the total profit shown in the income statement. This month, the company made a profit of $13 300.

Step 8: Prepare a post-closing trial balance

A post-closing trial balance can be found in Exhibit 4.7. You will notice that there are no revenue and expense accounts in this trial balance as they have been closed off in step 7.

EXHIBIT 4.7

REVAL LTD

POST-CLOSING TRIAL BALANCE AT 31 MAY 2019

	Debit $	Credit $
Cash	22 500	
Accounts receivable	85 000	
Inventory	28 800	
Land	40 000	
Plant and equipment	30 000	
Accounts payable		29 000
Long-term loan		10 000
Mortgage loan		35 000
Share capital		100 000
Retained profits		32 300
	206 300	206 300

Step 9: Prepare the financial statements

Items in the P & L summary account can be used as the basis for preparing the income statement and items in the post-closing trial balance can be used to create the balance sheet. Exhibit 4.8 shows the income statement and balance sheet.

EXHIBIT 4.8

REVAL LTD FINANCIAL STATEMENTS

INCOME STATEMENT FOR THE MONTH ENDING 31 MAY 2019

	$	$
Sales		70 000
Less COGS		39 200
Gross profit		30 800
Less Operating expenses:		
Wages	12 000	
Staff training	3 000	
Electricity	2 000	
Repairs and maintenance	500	17 500
Net profit		13 300

REVAL LTD

BALANCE SHEET AS AT 31 MAY 2019

Assets	$	Liabilities and shareholders' equity	$
Current assets		**Current liabilities**	
Cash	22 500	Accounts payable	29 000
Accounts receivable	85 000		
Inventory	28 800	**Noncurrent liabilities**	
	136 300	Long-term loan	10 000
Noncurrent assets		Mortgage loan	35 000
Land	40 000		45 000
Plant and equipment	30 000	**Total liabilities**	74 000
	70 000	Shareholders' equity	
		Share capital	100 000
		Retained profits	32 300
		Total shareholders' equity	132 300
Total assets	206 300	**Total liabilities and shareholders' equity**	206 300

Note calculating closing retained profits:

Beginning balance	19 000
Profit for the period	13 300
Dividends declared during the period	0
Retained profits at end of the period	32 300

4.5 Electronic commerce

LO1 With the advent of sophisticated interconnected computer systems many business transactions are now being entirely conducted in an electronic format. Electronic commerce ('e-commerce') is quite a challenge to financial accounting, and to internal control, because its essence is the absence of the painstaking 'paper trail' that has traditionally supported accounting records. Organisations still need good records for all the reasons outlined at the beginning of this section, but clearly the form of those records is changing dramatically. These days, many companies see little cash and not as many cheques as they used to from customers, with most payments being made by credit card or EFT. They don't pay their own employees by cash or cheque, but deposit their pay directly into their personal bank accounts.

E-commerce has other interesting implications for accounting. One implication is that there needs to be some compatibility between computer systems if the accounting systems on both sides of a transaction are to recognise the transaction properly. There also needs to be some trust in the electronic media to make the system work.

A second implication is that there can be a lot of 'in transit' activities because physical transfers (such as shipments and deliveries) are usually slower than the electronic system. If you order a book from an online retailer, then you, the retailer and your credit card company will have all the electronic records completed well before the book shows up. The tendency for records to be speedier, and separate from the physical movements of a product, means that in-transit items can be a challenge to control and reconcile.

A third implication for accounting is that the parties to e-commerce can be bound together quite closely, with the ability to make enquiries into each other's computer systems to find out order specifications, progress on the production of goods and other things that will help make the business relationship a successful one. This means that not only must the financial statements be right, but the underlying records

must be good too, so that business partners' enquiries are answered reliably. Some external parties – such as banks, tax authorities or securities regulators – may want to go straight to the underlying records without waiting for financial statements. There's a bit of a paradox here: e-commerce both operates without paper and demands a good trail of evidence. Even when you get a parcel delivered by an overseas courier, you can usually track its delivery progress.

Financial reporting itself is going online and becoming continuous, rather than waiting for the ritual quarterly or annual reporting dates. Many references to companies' web pages are made in this book, and many versions of online, and even interactive, financial reporting are being developed. E-commerce and electronic financial reporting are likely to change accounting and financial reporting dramatically in future years.

4.6 Managers, bookkeeping and control

Not many managers think of record-keeping as a captivating topic. This chapter has demonstrated, however, that it is an important topic for managers, primarily for two reasons: LO1

- Bookkeeping, and its associated record-keeping, provides the underlying data on which accounting's information is built. To a large extent, management decision-making and evaluations of management performance depend on accounting information. Such decisions and evaluations may be constrained by the nature of the underlying data. For example, if certain events are not recognised as transactions by the bookkeeping system, they may not be reflected in the financial statements either.
- Bookkeeping, and its associated record-keeping, provides the data and systems used in meeting management's important responsibilities to safeguard assets and generally keep the business under control. Management's internal control responsibilities are discussed in Chapter 7.

FOR YOUR INTEREST

The importance of the integrity of accounting information is reflected in the severe penalties associated with incorrect records and false accounting reports.

Here is a summary of some issues related to WorldCom/MCI in the United States.

- Bernie Ebbers, aged 63, was CEO of WorldCom/MCI when it went into the world's biggest bankruptcy at the time in 2002.
- The company had debts totalling more than US$10 billion.
- The savings of thousands of people, including its employees, were lost.
- A jury returned guilty verdicts on account of conspiracy, securities fraud and filing false documents.
- Ebbers was sentenced to over 20 years in jail.
- Ebbers founded WorldCom in the 1990s.
- At its peak the company had 80 000 employees and 20 million customers, and its share price rose in value from US$0.80 to more than US$60.
- In his trial Ebbers claimed: 'I don't know finance. I don't know accounting.'

Source: C. Overington, 'Corporate Cowboy Gets His Comeuppance', *Sydney Morning Herald*, 17 March 2005

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Identify accounting transactions

The following things happened to Bartlett Ltd last month. Decide if each is an accounting transaction and explain briefly why it is or it isn't.

1. A customer ordered $6000 of products, to be shipped next month.
2. Another customer paid $528 for some marketing advice from the company.
3. Bartlett's share price went up by $0.50. As there are 100 000 shares outstanding, this was a value increase of $50 000.
4. Bartlett ran an advertisement on TV, and promised to pay the TV station the $2000 cost next month.
5. One of the company's employees worked overtime, earning $120 that would be paid next pay period.
6. The company paid a teenager $50 to compensate for a ripped shirt that occurred when the teenager tried to run away after being accused of shoplifting.
7. Bartlett received a shipment of new goods for sale, paying $1000 cash and agreeing to pay the other $12 250 in a few days.
8. Bartlett paid the other $12 250.
9. The company made a donation to a political party of $500. (The donation turned out later to have been against the election law, to the company's embarrassment.)
10. Grand Bank made the company a $20 000 short-term loan.

PRACTICE PROBLEM B

Ledgers and preparation of financial statements

Go to the 11 transactions given in Newcombe Ltd (Practice problem C in Chapter 3) and complete the following tasks.

1. Prepare a set of ledgers. Use the opening balances given in the balance sheet, and post each transaction to the ledger account.
2. Calculate closing balances for these accounts and prepare closing entries.
3. Based on the above ledger accounts, prepare an income statement for the month of June 2019 and balance sheet as at 30 June 2019.

PRACTICE PROBLEM C

Closing the books

The following accounts have these balances at 30 June before closing entries.

Income statement accounts	$	Balance sheet accounts	$
Revenues		Cash	25 000
Sales revenue	270 000	Accounts receivable	33 000
Investment revenue	36 000	Share capital	80 000
Expenses		Retained profits	125 000
Cost of goods sold	121 000		
Wages expense	98 000		
General expense	7 000		

1 Provide the end-of-year journal entry to close the necessary accounts.
2 After the closing entries, what is the balance in the following accounts?
   a Sales revenue
   b Retained profits

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 What determines whether specific transactions are to be recorded in the accounting records?
2 What is the purpose of a journal entry?
3 What is a chart of accounts and what determines the number of account names to be included in a chart of accounts?
4 Why is it beneficial for transactions to be entered into a journal rather than being entered directly to a ledger?
5 What is the purpose of the trial balance?
6 What is the purpose of closing entries?
7 Financial statements are highly summarised documents, representing thousands of transactions. Financial newspapers and commentators produce information about companies that is even more summarised. Why would users accept, or even prefer, summarised information to detailed data? How important is it for the user to understand the procedures and assumptions behind such summaries?
8 At a recent Student Accounting Club wine and cheese party, local business people mixed with students. One small-business entrepreneur was heard to say, 'All that financial accounting information you students learn about is not relevant to me. I just started up my business. I only have five employees: four people in the shop building the product and one person in shipping/receiving. I'm out on calls, drumming up business so I have my finger on the real pulse of the firm – that's sales. My brother pays the bills and does the payroll every two weeks. Once in a while I write cheques too. It's all simple and smooth, so why add a lot of time-consuming, costly record-keeping to it all? All those books and financial statements are fine for the big public companies. I can do without the complications.' Prepare an appropriate response to his comments.
9 Identify some differences you might expect to find between the transaction filters and accounting books and records of a large corporation and those of a corner shop run by one person.
10 State whether or not you agree with each of the statements below and, in a few words, say why.
   a If an event satisfies all five of the transaction criteria, you can be sure it will be recorded by the entity's accounting system.
   b Purchases and sales by investors of existing issued shares of a company listed on the Australian Securities Exchange are not accounting transactions in the company's records.
11 Why is it essential that an accurate source document be prepared for every transaction?
12 Indicate the source documents that would be used for making entries for the following transactions:
   a a cash payment
   b a cash receipt
   c a credit sale
   d cost of goods sold
   e a purchase of inventory
   f the receiving of inventory.

13 Given the equality of debits and credits in a trial balance, what errors may still remain in a set of accounting records? How should these errors be guarded against?

14 What types of errors may be detected from a perusal of the items in a trial balance? What procedure should be used to locate the source of the discrepancy?

PROBLEMS

PROBLEM 4.1

Identify transactions

Beach Ltd experienced the following events. For each, say whether or not it is an accounting transaction and why, or why not.

1 The CEO decided that the company's main factory would be reorganised next month.
2 The company ordered shop supplies to be delivered in five days. Payment will be made after delivery.
3 The company received shop supplies it had ordered earlier in point 2, accompanied by an invoice from the supplier.
4 The company signed a new five-year lease on its Windsor warehouse.
5 The company sold some land, for which it would receive 10 annual payments, starting next year.
6 The company acquired a new truck for cash plus the trade-in of an old truck.
7 An employee was discovered to have stolen a large amount of cash.
8 The company was sued for a large amount by a customer who fell down in the car park.
9 The company announced a 2 per cent pay rise for all staff starting next month.

PROBLEM 4.2

Identifying events as accounting transactions

Which of the following events result in an accounting transaction for Clothing Ltd?

1 Clothing Ltd signed a contract to hire a new store manager for a salary of $150 000 per annum. The manager will start work next month.
2 The founder of Clothing Ltd, who is also a major shareholder, purchased additional stock in another company.
3 Clothing Ltd borrowed $230 000 from a local bank.
4 Clothing Ltd purchased a sewing machine, which it paid for by signing a note payable.
5 Clothing Ltd issued 10 000 shares to a private investor, who is also a car business owner, in return for a new delivery truck.
6 Two investors in Clothing Ltd sold their stock to another investor.
7 Clothing Ltd ordered some fabric to be delivered next week.
8 Clothing Ltd lent $250 000 to a member of the board of directors.

PROBLEM 4.3

Journal entries for simple transactions

The events listed below all took place on 21 June 2019. Provide the journal entry necessary to record each event in the accounts of JKL Ltd for the year ended 30 June 2019. If no entry is required, indicate this and give reasons. In most cases, an assumption is not necessary. If you feel an assumption is necessary, however, state it.

1 A new general manager is hired at an annual salary of $140 000.
2 A loan is obtained from the bank for $20 000, repayable in two years' time.
3 A landscaper agrees to improve land owned by JKL Ltd. The agreed price for the work is $2100 and work will commence in July 2019.
4 An order for $1300 of merchandise is received from a customer along with a cash deposit of $400.
5 A $1200 insurance premium for coverage over the period from 1 July 2019 to 30 June 2020 is paid in cash.
6 JKL Ltd places an order for the purchase of inventories with a cost price of $2000.

PROBLEM 4.4

Identify transactions and write journal entries for them

Southward Stores Ltd is a general merchandise retailer operating in the suburbs. During a recent month, the events listed below happened. For each event, decide whether it is an accounting transaction. If it *is* an accounting transaction, state briefly why and record it in journal entry form. Indicate where in the financial statements you wish each account to appear. If it is *not* an accounting transaction, state briefly why it is not.

1. Southward borrowed $500 000 from the Commonwealth Bank. Payment is due in three years, but the loan can be called on 10 days' notice if Southward fails to make any of the monthly interest payments, which begin next month.
2. The company ordered inventory for resale, costing $300 000, to be delivered in 40 days, and sent a deposit of $10 000 with the order.
3. The company renewed its lease on the store premises, signing an agreement that stipulated that, beginning in three months, the monthly rent would rise from $21 000 to $23 000.
4. Southward was charged with unfair pricing of its main line of merchandise. News of this sent the company's shares (listed on the stock exchange) down in price from $10 to $8.50 each. The company has one million shares issued, all publicly traded.
5. The company declared a dividend of $0.50 cents per share, to be paid in one week, on each of its one million issued shares. This news sent the company's shares up by $0.40 each on the stock exchange.

PROBLEM 4.5

Chart of accounts and source documents

The Great Outdoors Ltd has been established to retail bushwalking and mountaineering equipment. It proposes to open a shop in a suburban shopping centre that is at present under construction. To attract customers, a noticeboard will be provided for bushwalking clubs to post details of walks and other activities. The shop assistants will be experienced walkers, able to advise customers on equipment and routes for walking trips. An agency for the Youth Hostel Association will be established in the shop.

1. Indicate the information you would need to enable you to design a suitable accounting system.
2. Describe the source documents that would be employed in the system.
3. Prepare a suitable chart of accounts.

PROBLEM 4.6

Accounting cycle with a very small number of transactions

RST Ltd starts the year with only two account balances: cash $10 000 and share capital $10 000.

The following transactions occurred during the year:

a. Credit sales for services, $80 000.
b. Received cash from accounts receivable for $60 000.
c. Paid wages of $50 000 and other expenses of $10 000.
d. At year-end there was an unpaid electricity bill for $5000.

Required:

1. Prepare journal entries.
2. Post to the ledger.
3. Prepare a trial balance.
4. Prepare closing entries.
5. Prepare an income statement, balance sheet and statement of cash flows (note all cash flows are operating).

PROBLEM 4.7

Complete the accounting cycle from journal entries to financial statements

Take the transactions for Hoad Ltd (Problem 3.13 in Chapter 3) and:

1. Prepare journal entries
2. Post to the ledger accounts

3 Prepare a trial balance
4 Prepare closing entries
5 Prepare an income statement and a balance sheet.

PROBLEM 4.8

Complete the accounting cycle from journal entries to financial statements

Cleaner Pools Ltd is a small pool shop situated in Oatley in the southern suburbs of Sydney. The business sells and repairs pool filters as well as providing consulting services on pool layouts. At 30 June 2019 it had the following assets, liabilities and shareholders' equity account balances: cash $3000; accounts receivable $4000; inventory $4500; creditors $3500; retained profits $2000; and share capital $6000. The company's chart of accounts is shown.

01	Cash
02	Accounts receivable
03	Inventory
04	Prepayments
11	Furniture and fittings
12	Accumulated depreciation – furniture and fittings
20	Accounts payable
22	Accrued expenses
30	Share capital
31	Retained profits
40	Sales
41	Consulting revenue
42	Repairs revenue
50	COGS
51	Salaries
52	Rent
53	Motor vehicle expenses
54	Stationery
55	Depreciation – furniture and fittings
56	Advertising
57	Photocopier rental expenses

The following transactions occurred during July 2019:

Date		Transaction
July	1	Paid $2400 for three months' rent on the premises, which covers from 1 July to 30 September 2019.
	5	Completed a consulting job providing advice to a local developer on the design of a pool. Invoiced the developer for $1400 to be paid in 15 days.
	6	Repaired a pool filter and received a cash payment of $100.
	8	Credit purchase of shelving for $2100 in the business office (payable in 30 days). Cash payment of $300 to a tradesperson for installation of the shelves.
	11	Sold three filters for $900 cash each. (Cost of goods was $1600 in total.)
	13	Paid accounts payable, $3500.
	15	Received $4000 from accounts receivable.
	16	Purchased, for cash, office furniture that had a list price of $4000 but was on sale for $3000.
	18	Received a bill for $400 for advertising, payable in 10 days.

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19	Paid the rental expense on the company photocopier of $400, which covers the month of July.
23	Cash petrol expenses, $50.
24	Cash purchase of office stationery, $100.
28	Paid advertising bill.
29	Paid salaries for the month of $2000. An amount of $200 in wages was still owing at the end of the period.
29	Received $1400 for 5 July transaction.
31	Charged depreciation on the furniture and fittings of $100.

1 Show the relevant journal entries.
2 Post to the ledger.
3 Extract a trial balance at 31 July 2019.
4 Prepare an income statement for the month of July 2019 and a balance sheet as at 31 July 2019.

PROBLEM 4.9

Journal entries, post to the ledger and extract trial balance

Take the transactions for Roche Ltd (Problem 3.15 in Chapter 3) and complete the following tasks.

1 Prepare journal entries.
2 Post to the ledger accounts.
3 Prepare a trial balance.

PROBLEM 4.10

Accounting cycle and chart of accounts

Carlson Ltd is a business selling freezers to the public. This is its first year of operations. The chart of accounts is as follows.

Chart of accounts			
1-9	**Shareholders' equity**	**30-39**	**Assets**
1	Share capital	30	Bank of NZ
2	Retained profits	31	Sundry debtors
9	P & L summary	32	Inventories
		35	Delivery truck
10-19	**Liabilities**	**40-49**	**Expenses**
10	Sundry creditors	40	COGS
15	Loan from Finance Co.	42	Salary – shop assistants
20-29	**Revenue**	**45**	**Delivery truck expenses**
20	Sales	47	Office expenses
		49	Interest expense

Transactions for April 2019 were as follows:

2019		
Apr.	1	Owners introduced $150 000 in share capital, deposited in Bank of New Zealand.
	2	Delivery truck bought from finance company for $80 000 to become long-term loan.
	4	Goods purchased on credit for resale for $200 000.
	7	Paid delivery truck expenses, $4800.
	10	Sales made for cash, totalling $50 000 invoice value – original cost $30 000.
	15	Sales made to credit customers, $120 000 invoice value – original cost $70 000.

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25	Shop assistants' salary for month paid, totalling $8000.
27	Paid office expenses, $26 000.
29	Received $90 000 from credit customers.
29	Paid sundry creditors, $100 000.
29	Paid interest on loan, $800.

1 Enter the transactions in a general journal.
2 Post to the ledger.
3 Extract a trial balance.
4 Prepare, and post, closing entries.
5 Prepare an income statement for April 2019.
6 Extract a post-closing trial balance and prepare a balance sheet at 30 April 2019.

PROBLEM 4.11

Journal entries for a small new business

At the end of last year, Fergama Productions Ltd, a company in the film industry, had the following closing accounts (in no particular order).

	$		$
Cash	23 415	Share capital	20 000
Accounts payable	37 778	Office equipment cost	24 486
Accumulated depreciation	11 134	Accounts receivable	89 455
Retained profits	51 434	Inventory of supplies	10 240
Long-term loan payable	15 000	Taxes payable	12 250

During this year, the company's activities resulted in the following:

a Revenue, all on credit, totalled $216 459.
b Production expenses totalled $156 320, $11 287 of which was paid in cash and the rest charged.
c Depreciation on the office equipment came to $2680 for the year.
d The company bought, on credit, new supplies costing $8657 and used up supplies costing $12 984 during the year.
e Income tax expense for the year was estimated to be $12 319.
f The board of directors declared a dividend of $25 000.
g Collections from customers totalled $235 260.
h Payments to suppliers totalled $172 276.
i Payments of taxes totalled $18 400.
j A $5000 payment was made on the long-term loan.
k The dividend was paid in cash to shareholders.

Required:

1 To get you started, prepare a balance sheet for Fergama Productions Ltd as at the end of the last year.
2 Record the activities for this year, using journal entries, and enter those entries to ledgers.
3 Prepare a trial balance of your accounts to show that they balance.
4 From those accounts, prepare the following financial statements:
   a an income statement for this year
   b a balance sheet at the end of this year
   c a note showing the change in balance of the retained profits account.
5 Comment on what the financial statements show about the company's performance for this year and its financial position at the end of this year. Would you say the company is better off than it was last year?

PROBLEM 4.12

Trial balances

Which of the following errors would be detected by the preparation of a trial balance?

1. Goods were sold to a customer for $540. The invoice showed $5.40, which was the amount duly paid by the customer.
2. To record the purchase of a computer on credit, both the computer account and the accounts payable account were credited.
3. When an account from the service station was paid, the motor vehicle expenses account was debited with $149 and the cash account was credited with $194.
4. A photographic machine was repaired, but the invoice for the work was lost in the post.
5. Cash sales of $1470 were made. The bookkeeper correctly debited the cash account, but the corresponding credit was never made.
6. A salesman left the keys in one of the firm's vehicles, which was stolen and never recovered. The accountant had omitted to renew the insurance policy on the vehicle.
7. In listing the balances of the accounts, the balance of the postages account was shown as $541 instead of the correct figure of $514, and the balance of the donations account was shown as $3 instead of the correct figure of $30.

PROBLEM 4.13

Finding missing values from ledgers

Assets	2019	2018	Liabilities and shareholders' equity	2019	2018
Cash	50 000	40 000	Accounts payable	45 000	30 000
Inventory	60 000	35 000	Retained profits	36 000	10 000
Accounts receivable	71 000	65 000	Share capital	100 000	100 000
	181 000	140 000		181 000	140 000

Some other information related to the year ended 30 June 2019:

a. Credit sales, $130 000.
b. Purchase of inventory on credit, $70 000.
c. No dividends were declared or paid.

Required:

1. What was cost of goods sold for the period?
2. Assume accounts payable only relate to inventory. How much in cash was paid to accounts payable?
3. How much cash was received from accounts receivable?
4. What was the profit for the year?

PROBLEM 4.14

Completing the accounting cycle

Take the transactions for Rosewall Ltd (Problem 3.10 in Chapter 3) and complete the following tasks.

1. Prepare journal entries.
2. Post to the ledger accounts.
3. Prepare a pre-closing trial balance.
4. Prepare closing entries.
5. Prepare a post-closing trial balance.
6. Prepare an income statement and balance sheet.

PROBLEM 4.15

Closing entries

JONES LTD
PRE-CLOSING TRIAL BALANCE AT 30 JUNE 2019

	DR $	CR $
Cash	120 000	
Accounts receivable	290 000	
Inventory	350 000	
Prepaid insurance	25 000	
Equipment	260 000	
Accumulated depreciation		32 000
Accounts payable		150 000
Salaries payable		12 000
Loan		186 000
Share capital		300 000
Retained profits		300 000
Sales		320 000
COGS	190 000	
Depreciation expense	2 000	
Rent	10 000	
Salaries expense	37 000	
Insurance expense	5 000	
Telephone expense	5 000	
Electricity expense	6 000	
	1 300 000	1 300 000

PROBLEM 4.16

Reconstruct journal entries from T-accounts

Sanderson Electronics is a new retail store that sells mainly small parts, such as switches, circuit boards and wire. Sanderson's ledger accounts are shown below in T-account form, with entries made for the first month of business.

Cash	
(a) 30 000	(c) 1 200
(f) 1 300	(h) 1 000
(g) 650	(j) 560

Accounts receivable	
(e) 900	(g) 650
(f) 1 400	

Supplies	
(i) 300	

Equipment	
(c) 3 600	

Inventory	
(b) 5 000	(e) 540
	(f) 1 620

Accounts payable	
(h) 1 000	(b) 5 000
	(d) 700

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Notes payable		Share capital		Sales revenue	
(j) 500	(c) 2400		(a) 30 000		(e) 900
					(f) 2700

Supplies expense		Interest expense		COGS	
(d) 700	(i) 300	(j) 60		(e) 540	
				(f) 1620	

For each of the transactions (a) to (j), write the general journal entry that was used to post the accounts, including an explanation of the entry.

CASES

CASE 4A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 What would be the most likely source document used by Woolworths Limited to record:
   a a sale?
   b a purchase of goods for sale?
   c a payment to suppliers?
   d a payment of wages?
   e interest expense?
2 Prepare an example of the assets component of the chart of accounts that could be used by Woolworths.
3 What journal entry would Woolworths Limited write for each of the following?
   a A cash sale of $38
   b The purchase of 1000 white folders for $3 each on credit for resale
   c The payment of weekly wages of $1 million
   d The purchase of shop fittings on credit for $800 000
   e A bill to clients for management fees of $1 million
   f The receipt of $1 million in management fees from clients

CASE 4B Accounting records

A newspaper article referred to a Gold Coast building company being wound up owing Queensland businesses more than $7.5 million. The article referred to the liquidator learning of creditors that weren't listed in the company's records.

1 From an accounting recording perspective, explain how the creditors would not be listed on the company's balance sheet.
2 If creditors were not listed, what other balance sheet or income statement item is likely to be understated?

HOW'S YOUR UNDERSTANDING SOLUTIONS

4A (i) and (iv) are transactions that should be recorded.

4B **(i)**

DR	Accounts receivable	80 000	
CR	Sales revenue		80 000
DR	COGS	50 000	
CR	Inventory		50 000

(ii)

DR	Cash	40 000	
CR	Sales revenue		40 000
DR	COGS	25 000	
CR	Inventory		25 000

4C While you will be introduced to other transactions that will impact these accounts as you progress through the topics, below are examples that you would be expected to know at this stage.

(i) Increase: credit sales; decrease: receipts from customers

(ii) Increase: purchases of inventory; decrease: cost of goods sold.

4D

Cash

OB	4 000		
10/2	1 500		
CB	5 500		

Inventory

OB	2 000	10/2	1 100
CB	900		

Sales revenue

		10/2	1 500

COGS

10/2	1 100		

4E Liabilities, shareholders' equity and revenue account normally have a CR balance. Therefore the following accounts from the list would normally have CR balances: sales, wages payable, share capital, accounts payable.

4F Only error (iii) would be identified.

4G

			$	$
30/9	DR	Sales revenue	5 737	
	DR	Interest revenue	20	
	CR	Profit and loss summary		5 757
	DR	Profit and loss summary	2 097	
	CR	Depreciation expense		132
	CR	Rent expense		420
	CR	Other expenses		850
	CR	Travel expense		695
	DR	Profit and loss summary	3 660	
	CR	Retained profits		3 660

4H Both cash and sales revenue would be too low by $6782. This error would not have been picked up from the trial balance.

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1 No transaction since no exchange yet.
2 Yes, an exchange of money for advice.
3 No transaction for Bartlett as the exchanges that changed share price were between investors, not involving Bartlett.
4 Yes, an exchange of advertising received for a promise to pay, so a credit transaction.

5 Yes, for same reason as 4 – work received in exchange for a promise to pay for it.

6 Yes, an exchange of a sort. The teenager received cash and the company got some benefit (e.g. avoided a later lawsuit or other problem).

7 Yes, goods received in exchange for a combination of cash and promise to pay.

8 Yes, an exchange of cash for a removal of the promise to pay.

9 Yes, an exchange of cash for political benefit. The illegality doesn't change the fact that a transaction happened.

10 Yes, an exchange of cash for a promise to repay it.

PRACTICE PROBLEM B

1 Posting to the ledger accounts. Note as per part 2 of the question, the ledger accounts below show the closing balances and the closing entries have been posted.

Cash

	OB	90 000	e	Loan	60 000
a	Accounts receivable	23 000	f	Admin expenses	7 000
b	Share capital	80 000	h	Wages expenses	13 000
			i	Inventory	28 000
			j	Dividends	6 000
			k	Accounts payable	36 000
	CB	43 000			

Accounts receivable

	OB	106 000	a	Cash	23 000
c	Sales	76 000			
	CB	159 000			

Inventory

	OB	118 000	c	Cost of goods sold	32 000
i	Cash	28 000			
	CB	114 000			

Prepayments

	OB	45 000	g	Prepaid expense	9 000
	CB	36 000			

Equipment

	OB	400 000			

Accumulated depreciation

				OB	125 000
			d	Depreciation expenses	4 000
				CB	129 000

Accounts payable

k	Cash	36 000		OB	110 000
				CB	74 000

Loan

e	Cash	60 000		OB	240 000
				CB	180 000

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Share capital

				OB	200 000
			b	Cash	80 000
				CB	280 000

Retained profits

j	Dividend	6 000		OB	84 000
				P & L summary	11 000
				CB	89 000

Revenue

	P & L summary	76 000	c	Accounts receivable	76 000

Cost of goods sold

c	Inventory	32 000		P & L summary	32 000

Depreciation expense

d	Accumulated depreciation	4 000		P & L summary	4 000

Administrative expenses

f	Cash	7 000		P & L summary	7 000

Prepaid expenses

g	Cash	9 000		P & L summary	9 000

Wages expenses

h	Cash	13 000		P & L summary	13 000

P & L summary

	Cost of goods sold	32 000		Revenue	76 000
	Administrative exp	7000			
	Prepaid exp	9000			
	Wages exp	13 000			
	Depreciation exp	4 000			
	Retained profits	11 000			

2 The closing entries are found below. The postings were seen in the ledger accounts in the solution to part 1.

30/6	DR	Revenue	76 000	
	CR	P & L summary		76 000
	DR	P & L summary	65 000	
	CR	Cost of goods sold		32 000
	CR	Administrative exp		7 000
	CR	Prepaid expense		9 000
	CR	Wages expense		13 000
	CR	Depreciation exp		4 000
	DR	P & L summary	11 000	
	CR	Retained profits		11 000

3

NEWCOMBE LTD
INCOME STATEMENT FOR THE MONTH ENDED 30 JUNE 2019

	$	$
Sales		76 000
Cost of goods sold		(32 000)
Gross profit		44 000
Operating expenses		
Wages	13 000	
Prepaid expenses	9 000	
Administrative	7 000	
Depreciation	4 000	(33 000)
Net profit		11 000

NEWCOMBE LTD
BALANCE SHEET AS AT 30 JUNE 2019

	$		$
Current assets		**Current liabilities**	
Cash	43 000	Accounts payable	74 000
Accounts receivable	159 000		
Inventory	114 000	**Noncurrent liabilities**	
Prepayments	36 000	Long-term loan	180 000
	352 000		254 000
Noncurrent assets		Shareholders' equity	
Equipment	400 000	Share capital	280 000
Accumulated depreciation	(129 000)	Retained profits	89 000
	271 000		369 000
Total assets	623 000	**Total liabilities and equity**	623 000

PRACTICE PROBLEM C

1

30/6	DR	Sales revenue	270 000	
	DR	Investment revenue	36 000	
	CR	P & L summary		306 000
	DR	P & L summary	226 000	
	CR	Cost of goods sold		121 000
	CR	Wages expense		98 000
	CR	General expense		7 000
	DR	P & L summary	80 000	
	CR	Retained profits		80 000

2 a Sales revenue: $0

b Retained profit = $125 000 (Opening balance) + $80 000 = $205 000

COURSEMATE EXPRESS

WEBSITE RESOURCES

Go to **http://login.cengagebrain.com** and use the access code that comes with this book for 12 months access to the resources and study tools for this chapter.

The CourseMate Express website contains:

- student revision quizzes
- glossary of key terms and flashcards
- and more!

NOTE

1 We thank Terry Rowney, CEO of Labelcraft, for providing these examples.

Accrual accounting adjustments

5

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 explain how the timing of revenue and expense recognition differs from cash inflows and outflows (5.1, 5.4)

LO2 explain the purpose of accrual accounting adjustments (5.2)

LO3 describe prepayments, accrued revenue, accrued expenses, revenue received in advance, depreciation, doubtful debts and contra accounts (5.2)

LO4 calculate the impact on the financial statements of accrual accounting adjustments (5.2)

LO5 prepare journal entries for accrual accounting adjustments (5.2, 5.3, 5.6)

LO6 show the impact on the financial statements and prepare journal entries for the depreciation of assets and the sale of assets (5.5)

LO7 explain the implications of these adjustments for managers (5.7).

CHAPTER OVERVIEW

Accrual accounting exists because cash flow information is not complete enough to assess financial performance or financial position. Keeping track of cash flow is crucial for business success, but it is not enough. We have to go beyond cash flow to assess economic performance more broadly and to assess non-cash resources and obligations. We do this although it forces us to make estimates, judgements and other accounting choices that, in turn, make the results less precise than we would wish, and more subjective than transaction-based cash flow figures.

Imagine the following conversation between a student and a relative, who is also a professional accountant:

Accountant: Well, you spent the summer working at High-class Boutique. How did you do?

Student: I had a great time. Met some great people, learned a lot about retailing, and have decided to major in marketing.

Accountant: No, I meant how did you do financially?

Student: Let's see. I received $4260 over the three months. I have $2330 left in the bank, so I guess I must have spent $1930. Gee, $2330 doesn't seem much for a summer's work! But the boutique still owes me for my last week of work.

Accountant: What did you spend the $1930 on?

Student: I blew some of the money on beer and entertainment, and on that trip to the Gold Coast. But I also bought new clothes for semester one, and I have the new computer, and the iPad I got so that I might be able to take better notes in class and pass accounting.

Accountant: Don't forget you have to pay your Uncle Al back the money he lent you in November. That's in your bank account too. You promised to pay him, plus interest, at the end of the summer. And then there's your university fees for next year; some of those have been paid. And didn't you say that you owed a friend something for petrol for that trip to the Gold Coast and you had already bought books in advance because the accounting one looked so interesting?

Student: I don't think we should count the fees because it doesn't really apply until I enrol. Although I guess that's why I was working. Now I'm not sure if I had a good summer or not!

This example illustrates many of the issues accrual accounting tries to deal with, including the following:

- The more you think about it, the more complex measuring performance and position seems to be, and the less satisfactory cash by itself seems to be as a measure.
- Some of what is earned may not yet have been received in cash (payment for the last week of work).
- Similarly, some costs incurred may not yet have been paid (the petrol for the trip).
- Some cash payments result in resources still having economic value at the end of the period (the iPad, the computer and maybe the clothes).
- Some cash receipts result in obligations still outstanding at the end of the period (Uncle Al's loan).
- The longer-term resources may have deteriorated during the period (not all the clothes purchased during the summer will still be valuable because fashions change, and the iPad and the computer are now used items).
- Obligations may build up during the period (the interest on Uncle Al's loan).
- There is often doubt about whether some things should be included in measuring performance for a given period or position at a given point in time (the university fees).
- Generally, how do we relate the timing of cash flows to the period we're concerned with? Most of the above items involve cash flows sooner or later; the awkward cases are usually those when the period in which the cash moves and the period for which we're measuring performance don't match.

Think of accrual accounting as an attempt to measure economic performance and financial position in a more complex way than just by using cash. There is always a trade-off here: the closer to cash, the more precise the measure, but also the more limited and less informative the information. The more accountants try to make the financial statements economically relevant, the more they must include estimates and other sources of imprecision or error.

HOW'S YOUR UNDERSTANDING?

5A With respect to the current accounting period, state whether each of the following independent transactions: (a) increases expenses; (b) decreases cash; or (c) both.

(i) Recognition of depreciation
(ii) Repayment of a loan
(iii) Payment of a cash dividend
(iv) Payment of an advertising invoice that was recorded as an expense in the previous period
(v) Payment of wages for the period
(vi) Purchase of a block of land for cash

5.1 Conceptual foundation of accrual accounting

Accrual accounting is the dominant form of financial accounting in the world today. This chapter builds on the foundation laid in earlier chapters; it explains why accrual accounting exists and distinguishes the accrual-basis from cash-basis accounting. LO1

Accrual accounting is based on the idea that events, estimates and judgements that are important to the measurement of financial performance and position should be recognised by entries in the accounts (and therefore reflected in the financial statements). This is regardless of whether or not they are yet to be, or already have been, realised by cash received or paid out. To slightly oversimplify, we might say that the objective is to recognise economic flows in addition to cash flows. To clarify this idea, we will focus on revenue and expense recognition.

Let's build the accrual accounting approach from some basics. These three cornerstones have come up already in this book, but we'll give them brief definitions again, then build from there. We will come back to these concepts in Chapter 13 to provide the more inclusive concepts outlined in the revised International Accounting Standards.

- *Revenues* are inflows of economic resources from customers, earned through providing goods or services. You might say that companies are in business to earn revenues.
- *Expenses* are outflows of economic resources to employees, suppliers, taxation authorities and others, resulting from business activities, to generate revenue and serve customers. You might say that incurring expenses is the cost of earning revenues.
- *Net profit* is the difference between revenues and expenses over a period of time, such as a month, a quarter or a year. You might say that net profit is the measure of success in generating more revenues than it costs to do so.

Note some features of these cornerstones:

- Revenues and expenses refer to inflows and outflows of economic resources. These flows may be represented by the kinds of events recognised by the transactional record-keeping system described in Chapter 4, but they may also involve other phenomena such as those discussed in section 5.2. In particular, they may involve phenomena that arise before or after cash changes hands, as well as at the point of the cash flow.
- Net profit is dependent on how revenues and expenses are measured. Accountants don't (or shouldn't) choose the profit number first, then force revenues and expenses to result in that number, but instead measure revenues and expenses as best they can, then let net profit be whatever the difference is between properly measured revenues and expenses.

A conceptual system for accrual profit measurement

Accrual accounting's purpose is to extend the measurement of financial performance and financial position by recognising phenomena before and after cash flows, as well as at the point of cash flows (which cash basis accounting already does). We need a system, therefore, that covers the following types of events:

1. recognition of revenue (resource inflow) or expense (resource outflow) at the same time as cash inflow or outflow
2. recognition of revenue (resource inflow) or expense (resource outflow) before cash inflow or outflow
3. recognition of revenue (resource inflow) or expense (resource outflow) after cash inflow or outflow.

Accrual accounting derives its value from recognising transactions in categories 2 and 3. These allow measurement of performance and position to be spread out over time. Category 2 extends the time horizon out prior to the cash flow, and category 3 extends the time horizon out subsequent to the cash flow. Category 1 already exists in the cash basis of accounting, so the accrual method includes the cash basis. As will be illustrated below, it also does much more.

Implementing the accrual framework

As you review the following examples, try to think about the general accrual accounting framework they represent. They are not the only examples that could be listed, but they will help you understand the concept, so that you can choose or understand an accounting entry or financial statement item that you might not have seen before. Think about the patterns rather than trying to memorise the entries. Think about how accrual accounting recognises revenue when it is earned and recognises expenses when they are incurred, regardless of when the cash is collected.

In the following illustration, we first show the effect of the transactions on the accounting equation, then show the journal entry below. This should reinforce your understanding of journal entries.

In considering each of the entries below, remember the accounting equation must always balance: A = L + SE. An increase in revenue increases SE while an increase in an expense decreases SE.

1 RECOGNITION OF REVENUE OR EXPENSE AT THE SAME TIME AS CASH INFLOW OR OUTFLOW

These examples are simple cash-basis revenue and expense transactions, which you have seen in earlier chapters. We present them again here to provide a complete picture of revenue and expense accounting under the accrual basis.

Revenues

- A retail shop records a cash sale to a customer.

  ↑ Cash $48

  ↑ Sales revenue $48

		$	$
DR	Cash	48	
CR	Sales		48

- An investor records a dividend cheque received from BHP Billiton.

  ↑ Cash $150

  ↑ Dividend revenue $150

		$	$
DR	Cash	150	
CR	Dividend revenue		150

Expenses

- A company pays Acme Rug Cleaners to shampoo the carpets in its customer waiting area.

  ↑ Office expenses $245

  ↓ Cash $245

  Note that increasing an expense reduces equity.

		$	$
DR	Office expense	245	
CR	Cash		245

- A company makes a donation to the accounting department of the local university to support teaching and research.

  ↑ Donation expense $10 000

  ↓ Cash $10 000

		$	$
DR	Donation expense	10 000	
CR	Cash		10 000

2 RECOGNITION OF REVENUE OR EXPENSE PRIOR TO CASH FLOW

In the following situations, the revenue or expense is recognised before the cash inflow or outflow. Under accrual accounting, the revenue should be recognised (recorded in the accounting records) when it is earned, not when the cash is collected. Similarly, expenses should be recognised in the period in which the expense is incurred, not when the cash is paid. Assume the year-end is 30 June.

Revenues

- A lawyer performs services for a client in June 2019 and bills the client $500 to be paid within 30 days.

  ↑ Accounts receivable $500

  ↑ Fee revenue $500

		$	$
DR	Accounts receivable	500	
CR	Fee revenue		500

Expenses

- A company receives a $2400 advertising bill on 10 June 2019, payable within 30 days.

  ↑ Advertising expense $2400

  ↑ Accounts payable $2400

		$	$
DR	Advertising expense	2 400	
CR	Accounts payable		2 400

- A manufacturer estimates that it will incur future warranty costs of $3000 in the 2019 financial year on products sold in the 2019 financial year. (The warranty expense should be recognised in 2019, since that is the year in which the sales revenue was recognised and the warranty expense relates to that sale.)

  ↑ Warranty expense $3000

  ↑ Warranty liability $3000

  (Warranty liability is sometimes called provision for warranty expense.)

		$	$
DR	Warranty expense	3 000	
CR	Warranty liability		3 000

- On 30 June 2019, a company calculates that its 2019 income taxes are $1850. The company must pay its taxes by 10 October 2019.

  ↑ Income tax expense $1850

  ↑ Income tax payable $1850

		$	$
DR	Income tax expense	1 850	
CR	Income tax payable		1 850

In the above examples, revenue and expenses are recognised before the cash flow transactions. When the cash flows occur, there is no longer a need to recognise revenue or expense. The cash flows will be recorded as offsets to the assets and liabilities created when the revenues and expenses were initially recorded. For example, the payment of the tax bill will decrease cash and decrease income tax payable. These entries are illustrated below.

3 CASH COLLECTIONS OR PAYMENTS RELATED TO PREVIOUSLY RECOGNISED REVENUES AND EXPENSES

Revenues

- The lawyer receives full payment from her client in July 2019.

  ↑ Cash $500

  ↓ Accounts receivable $500

		$	$
DR	Cash	500	
CR	Accounts receivable		500

Expenses

- The advertising expense is paid on 10 July 2019.

  ↓ Accounts payable $2400

  ↓ Cash $2400

		$	$
DR	Accounts payable	2 400	
CR	Cash		2 400

- The manufacturer makes payments under the warranty in July 2019.

  ↓ Warranty liability $3000

  ↓ Cash $3000

		$	$
DR	Warranty liability	3 000	
CR	Cash		3 000

- The company pays a cheque to the Australian Taxation Office on 10 October 2019.

  ↓ Income tax payable $1850

  ↓ Cash $1850

		$	$
DR	Income tax payable	1 850	
CR	Cash		1 850

4 CASH INFLOW OR OUTFLOW *BEFORE* REVENUE AND EXPENSE RECOGNITION

In the following situations, the revenue or expense is recognised after the cash inflow or outflow. Under accrual accounting, the revenue should be recognised when it is earned, not when the cash is collected. Similarly, expenses should be recognised in the period in which the expense is incurred, not when the cash is paid.

Revenues

- A lawyer receives an advance of $2500 from a client for future services. The revenue will not be earned until a later date when services are performed. Recognition of revenue is deferred until the service has been performed.

  ↑ Cash $2500

  ↑ Customer advances* $2500

*(This is also called 'unearned revenue' or 'revenue received in advance'.)

		$	$
DR	Cash	2 500	
CR	Customer advances		2 500

Expenses

- In June 2019, Dogwood Limited pays $400 for a one-year fire insurance policy that becomes effective 1 July 2019. The insurance premium provides coverage for one year, and should be recognised as a 2020 expense. Expense recognition is deferred until 2020.

  ↑ Prepaid insurance $400

  ↓ Cash $400

		$	$
DR	Prepaid insurance	400	
CR	Cash		400

- In July 2019, Dogwood Limited purchases, for $400 000 in cash, a new building to be used as a retail location. Dogwood estimates that the building will be useful for 10 years. The building will be used to produce revenues over 10 future years. Recognition of an expense for the cost of using the building (depreciation expense) will be deferred.

  ↑ Building $400 000

  ↓ Cash $400 000

		$	$
DR	Building	400 000	
CR	Cash		400 000

- Dogwood Limited purchases $5000 worth of stereo components from a supplier for cash. Dogwood intends to resell these items to its customers. The purchases represent an asset (inventory), and recognising the cost as an expense is deferred until revenue is recognised through sales to customers.

  ↑ Inventory $5000

  ↓ Cash $5000

		$	$
DR	Inventory	5 000	
CR	Cash		5 000

5 RECOGNITION OF REVENUE OR EXPENSE *AFTER* CASH INFLOW OR OUTFLOW

Revenues

- The lawyer completes the work promised for the client. The revenue has now been earned and should be recognised.

  ↓ Customer deposits $2500

  ↑ Fee revenue $2500

		$	$
DR	Customer deposits	2 500	
CR	Fee revenue		2 500

Expenses

- Dogwood's fire insurance policy expires in June 2020. Coverage has been used during the year ended 30 June 2020; therefore, the cost of insurance used up should be recognised as an expense in 2020.

  ↑ Insurance expense $400

  ↓ Prepaid insurance $400

		$	$
DR	Insurance expense	400	
CR	Prepaid insurance		400

- After a year of occupancy, Dogwood recognises a portion of the cost of the building as an operating expense (cost of $400 000; useful life of 10 years).

  ↑ Depreciation expense $40 000

  ↑ Accumulated depreciation $40 000

		$	$
DR	Depreciation expense	40 000	
CR	Accumulated depreciation		40 000

- Dogwood sells all of the stereo components to customers. The cost of the inventory sold is an expense of earning revenue from the sale.

  ↑ Cost of goods sold $5000

  ↓ Inventory $5000

		$	$
DR	Cost of goods sold	5 000	
CR	Inventory		5 000

HOW'S YOUR UNDERSTANDING?

5B During the year the following occurred. What are the total expenses for the year?

(i) Goods which cost $60 000 were sold on credit for $100 000.

(ii) Paid wages of $40 000.

(iii) Depreciation expense was $8000.

5C Given the following transactions, what is total revenue for 2019?

(i) Received $50 000 from accounts receivable in 2019, related to sales in 2018.

(ii) Cash sales of $200 000 in 2019.

(iii) Credit sales of $600 000 in 2019, of which $450 000 was received in 2019.

(iv) Received $70 000 deposit on a consulting job to start in 2020.

5D If a company pays a 12-month insurance premium for $36 000 on 1 June 2019, covering 1 June 2019 to 31 May 2020; at 30 June 2020, what is the value of the asset at 30 June 2019?

SUMMARY

Based on the above:

- You can say that accrual accounting makes much of the balance sheet into a sort of 'holding area' for incomplete revenue and expense events. For example, we record a credit sale as revenue and set up the related accounts receivable until cash is subsequently collected.
- You can see how accrual accounting spreads out these events over time. For example, a building is originally recorded as an asset, and the cost is periodically recognised as a depreciation expense over the useful life of the asset.

There are complications, but the general pattern behind accrual accounting's revenue and expense recognition system is as follows:

- The recognition of revenue before cash collection is done by creating an asset account (accounts receivable, usually), which stands in for the economic value gained until the cash has been collected.
- The recognition of an expense before cash payment is done by creating a liability account (such as accounts payable, wages payable or tax payable), which stands in for the economic value lost until the cash is paid.
- Recognition of unearned revenue when cash is collected is provided for by creating a liability account (called 'unearned revenue' or 'revenue received in advance'), which represents the commitment to the customer until the economic value is gained by providing the goods or services the customer has paid for. Revenue is later recognised when the goods or services are actually provided.
- An asset account (such as prepayments, inventory or machinery) is created when cash is paid. These assets represent the available resource until the economic value is lost by consuming the asset. Assets can be acquired by promises to pay, not just by cash; therefore, journal entries might credit accounts payable, mortgage payable or other liabilities rather than cash. But you can see that the 'asset' side of these entries still represents resources that are to be consumed later. Accrual accounting recognises the expense when the consumption happens, not when the asset is acquired, no matter how it is acquired.
- Not all cash flows involve revenues or expenses. Such flows have to be included in the accounts, but as they do not affect profit they are limited to balance sheet accounts. There are other events even further removed from the profit calculation. Some examples of these are the receipt of cash from an issue of share capital, the disbursement of cash to make a mortgage payment, the disbursement of cash to pay for an investment in another company, and the receipt of cash from a bank loan.

HOW'S YOUR UNDERSTANDING?

5E Provide an example of each of the following:
- (i) the cash is received in the same period as the revenue is earned
- (ii) the cash is received in a period before the revenue is earned
- (iii) the cash is received in a period after the revenue is earned.

These examples were intended to help you think about what is going on, and to see that there is a pattern behind the great variety of entries used in accrual accounting. For example, the following are all examples of asset consumption:

- reduction in the economic value of a building (credit accumulated depreciation; debit depreciation expense)
- reduction in inventory as goods are sold (credit inventory; debit cost of goods sold)
- reduction in supplies assets as supplies are used (credit supplies inventory; debit supplies expense)
- reduction of prepaid insurance asset as the coverage is used (credit prepaid insurance; debit insurance expense).

HOW'S YOUR UNDERSTANDING?

5F In what way can it be said that depreciation expense and cost of goods sold expense are examples of the same thing?

5.2 Accrual accounting adjustments

LO2 LO3 LO4 LO5

The transactional records provide the foundation of the financial accounting system. In order to implement the accrual accounting system outlined above, such records usually require adjustments. Adjustments involve the implementation of routine accruals, such as those indicated in section 5.1: revenues earned but not yet collected, expenses incurred but not yet paid, cash received from customers before the related revenues have been earned, and consumption of assets.

The degree to which accrual adjustments are needed in any accounting system depends on the sophistication of the system: sophisticated accounting systems may go beyond the transactional records and routinely include many adjustments that, for simpler systems, are made at year-end in a special set of journal entries. Many large companies have monthly accruals for interest expenses and other expenses as they build up, and monthly adjustments for depreciation and other consumptions of assets. Many small companies don't bother until annual financial statements are needed.

Accrual accounting adjustments follow the same double-entry format as do the transactional records:

- After each adjustment, the accounting equation will still balance.
- Some account/s must be debited.
- Some account/s must be credited.
- The sum of the debits must equal the sum of the credits.

Accountants call such adjustments 'adjusting journal entries'. Their purpose is to augment the transaction-based (especially cash-based) figures (outlined in Chapter 4) to add to the story told by the transactional records. They implement accrual accounting.

The objective of accrual accounting is to improve the measurement of financial performance and position. However, because different choices can be made about what accounts need to be adjusted and by how much, accrual accounting can be a mechanism for manipulating results and producing misleading reports. Therefore, the auditors give particular attention to the kinds of accrual adjustments a company makes. Most of the criticism of financial reporting is directed at subjective accrual adjustments – made using judgement – rather than at the more objective, verifiable transactional records. In spite of this subjectivity and criticism, most accountants believe the accrual accounting basis to be superior to the cash basis, because it provides a more complete record that is also more representative of economic performance than the cash basis.

There are four main types of routine adjustments that need to be accounted for:

- prepayments
- unearned revenues
- accrual of unrecorded expenses
- accrual of unrecorded revenues.

Prepayments

Prepayments (also called 'prepaid expenses') are assets that arise because an expenditure has been made, but there is still value extending into the future. They are usually classified as current assets because the future value usually continues only into the next year. However, sometimes the value extends beyond a year, and the company may then appropriately show a noncurrent prepaid expense. Prepayments arise whenever the payment schedule for an expense does not match the company's financial period, such as for annual insurance premiums when the policy date is not the financial year-end, or council rates that are based on the council's rate assessment schedule rather than on the company's financial period or rent payments that are made quarterly in advance.

Prepayments are not assets in the same way as are receivables (to be collected in cash) or inventories (to be sold for cash). They arise from accrual accounting, in cases where the expense recognition follows the cash flow. This is conceptually the same reason inventories and equipment are on the balance sheet: something of value exists; therefore, its cost should not yet be deducted as an expense. Here, the value is in the fact that, having spent the money already, the company will not have to spend it in the next period. Alternatively, the value can be considered to be the fact that they are entitled to a service in the future for which they have already paid. So, prepayments do not necessarily have any market value, but they have an economic value because future resources will not have to be expended. As the assets are consumed in the process of earning revenue, a portion of the cost is written off in each period as an expense. For example, in the case of prepayments, such as prepaid insurance, 1/12th of the premium would be used up each month, resulting in a reduction in an asset (prepayments) and an increase in an expense (insurance expense).

The accounting for prepayments works as follows. When an amount is paid – for, say, an insurance premium – prepayments (an asset) is increased and cash (an asset) decreases. At the end of the accounting period, some of the prepayment will have been used up. Therefore, the amount of the asset is reduced and the expired portion of the asset is treated as an expense. Consider the following example.

On 1 June 2019, a company pays $24 000 for a one-year insurance policy. The accounts would be affected as follows.

	Assets		=	Liabilities	+	Equity
	Cash	Prepayments				Expense
1 June	−24 000	+24 000				
30 June		−2 000				−2 000
Total	−24 000	+22 000				−2 000

As 1/12th of the asset was used up in June (i.e. an expense of $2000), the closing balance of the asset is $22 000.

The journal entry would be:

			$	$
1 June	DR	Prepayments	24 000	
	CR	Cash		24 000
30 June	DR	Insurance expense	2 000	
	CR	Prepayments		2 000

These accounts now appear as follows:

Prepayments			
1/6	24 000	30/6	2 000
CB	22 000		

Insurance expense		
30/6	2 000	

The prepayment balance of $22 000 represents 11 months of insurance that is prepaid and would be shown in the balance sheet at 30 June 2019 as a current asset. The insurance expense account would appear on the June income statement. The transfer from the asset account (prepayments) to the expense account (insurance expense) will continue each month for the next 11 months, by which time the asset will have a zero balance.

Prepayments are sometimes shown on the face of the balance sheet (the Telstra example) or included in other assets and disclosed separately in the notes to the accounts (the JB Hi-Fi example). Exhibit 5.1 shows that Telstra has $531 million of prepayments classified as current assets and shown on the face of its 2017 balance sheet. Examples of prepayments for Telstra would include payments for insurance and rent on premises for future periods, e.g. they make these payments yearly where part of the payment relates to 2017 and part relates to 2018.

In contrast, JB Hi-Fi Limited, in its 2017 annual report, shows prepayments in the notes as part of 'other current assets'.

EXHIBIT 5.1

TELSTRA AND JB HI-FI LIMITED

EXTRACTS OF CONSOLIDATED BALANCE SHEET AS AT 30 JUNE 2017

	Telstra Group		
	Note	2017 $m	2016 $m
Current assets			
Cash and cash equivalents	2.6	938	3 550
Trade and other receivables	3.3	5 488	4 737
Inventories	3.4	893	557
Prepayments		531	426

Telstra, *Annual Report 2017*, page 73.

>

JB Hi-Fi Limited			
		Consolidated	
	Note	2017 $m	2016 $m
Current assets			
Cash and cash equivalents		72.8	51.9
Trade and other receivables	8	196.6	98.0
Inventories	7	859.9	546.4
Other current assets	9	41.4	6.1
Total current assets		1 170.7	702.4

		2017 $000	2016 $000
9	**Other assets**		
	Current		
	Prepayments	29.8	3.1
	Other	11.6	3.0
		41.4	6.1

JB Hi-Fi Limited, *Annual Report 2017*, page 64.

The entry that decreases prepayments and increases expenses is an example of expiration of assets, i.e. part of the asset has been used up. Another example of the expiration of assets is the using up of supplies. For example, on 3 June a company purchases supplies costing $10 000, which it pays cash for. At 30 June, it is ascertained that $3000 of the supplies remains unused. Therefore, the balance of the asset account (supplies) needs to be reduced by $7000 ($10 000 – $3000). The fact that $7000 of supplies has been used up results in an expense.

	Assets		=	Liabilities	+	Equity
	Cash	Prepayments				Expense
3 June	−10 000	+10 000				
30 June		−7 000				−7 000
Total	−10 000	+3 000				−7 000

The supplies expense balance of $7000 would appear in the June income statement. The supplies balance of $3000 would appear as a current asset in the balance sheet as at 30 June.

The journal entries would appear as follows:

			$	$
3 June	DR	Supplies	10 000	
	CR	Cash		10 000
30 June	DR	Supplies expense	7 000	
	CR	Supplies		7 000

Another example of reducing the balance of an asset and treating it as an expense upon consumption is depreciation. This concept has been introduced earlier, and will be discussed in section 5.5 of this chapter and, in more detail, in Chapter 10.

Unearned revenues

Unearned revenue is future revenue where the cash has been received in advance of earning revenue. Alternative names for the unearned revenue account include 'revenue received in advance', 'advances from customers' and 'customer deposits'. They relate to collections from customers for goods or services not yet provided; therefore, the revenue cannot yet be recognised. Examples include deposits from customers for jobs, insurance premiums received, yearly magazine subscriptions received, golf club membership fees and rental income received in advance. For example, a company that sells magazines by subscription would usually receive these amounts in advance, then send out magazines each month. Assume that at the start of the year the company receives subscriptions of $240 000 and has promised to send out magazines for 12 months. At the time of collection, the amount received would be a liability because goods or services are owing to the subscriber. As each magazine is delivered, the liability is reduced and revenue can be recognised.

	Assets	=	Liabilities	+	Equity
	Cash		Unearned revenue		Revenue
January	+240 000		+240 000		
Monthly			−20 000		+20 000

The journal entries would be as follows:

			$	$
Jan.	DR	Cash	240 000	
	CR	Unearned revenue		240 000

Each month, as the magazine is sent out, the following journal entry would be posted:

			$	$
(Date)	DR	Unearned revenue	20 000	
	CR	Sales revenue		20 000

HOW'S YOUR UNDERSTANDING?

5G If the supplies asset account balance was $4000 at the start of the month and $6000 at the end of the month, what is the supplies expense if $30 000 of supplies were purchased during the month?

Qantas Airways Limited, in its 'Summary of Significant Accounting Policies' in its *2017 Annual Report*, provides the following details on unearned revenue (described as 'revenue received in advance'):

> Passenger revenue and freight revenue is recognised when passengers or freight are uplifted. ... Receipts for advanced passenger ticket sales or freight sales which have not yet been availed or recognised as revenue are deferred on the balance sheet as revenue received in advance.
>
> *Qantas Annual Report 2017*. Positioning for Sustainability and Growth, page 93.

This note indicates that when the cash is received, cash (an asset) will be debited and revenue received in advance (a liability) will be credited. When passengers take their flight or their ticket expires, the revenue received in advance account would be reduced (debited) and revenue increased (credited).

Qantas, like many other companies including Telstra, refers to 'unearned revenue' as 'revenue received in advance'; that is, both terms can be used interchangeably. Note that revenue received in advance is its

largest current liability. In its *2017 Annual Report*, Qantas has $3685 million in current liabilities under the heading 'Revenue received in advance'.

	Note	Qantas Group 2017 $m	Qantas Group 2016 $m
Current liabilities			
Payables		2 067	1 986
Revenue received in advance	14	3 685	3 525
Interest-bearing liabilities	15	433	441
Other financial liabilities	20(c)	69	203
Provisions	16	841	873
Total current liabilities		7 095	7 028

Qantas Annual Report 2017. Positioning for Sustainability and Growth, page 58.

Unearned revenue is also large in some service industries such as telecommunications. As an example, when you pay your phone rental in advance, the payment received by Telstra would increase cash and increase revenue received in advance. As it provides the service, the revenue would be increased and the liability decreased. In previous annual reports, Telstra has noted that revenue received in advance consists mainly of revenue from providing access to the fixed and mobile network and directories advertising revenue. This revenue is initially recorded as a liability and then transferred to earned revenue in line with its revenue recognition policies.

Chartered Accountants Australia and New Zealand (CAANZ), in its 2017 financial statements, includes fees in advance of $48 091 000. In note 10, it describes them as follows:

	2017 $000	2016 $000
10. Fees in advance		
Members' fees	48 091	45 969
CA Program, training course fees and other	8 462	8 272
	56 553	54 241

Source: Chartered Accountants Australia and New Zealand, *2017 Financial Statements*.

Note that these items are included in the liability section because, at year-end, CAANZ has not yet provided the service. They are recognised as revenue in the following year; that is, the year CAANZ provides the service.

HOW'S YOUR UNDERSTANDING?

5H When the unearned revenue account increases, what is the journal entry?

5I If the opening balance of unearned revenue is $100 000 and the closing balance is $20 000, what is revenue for the period assuming there are no other transactions?

Accrual of unrecorded expenses

This adjustment involves determining which expenses have been incurred by the organisation (but not paid in cash) during a particular period of time – generally a month. This usually involves checking which invoices have been received from suppliers, incorporating that information into the accounting system as accounts payable, and making estimates for expenses for which invoices have not yet been received (e.g. telephone,

electricity and accounting fees). Generally speaking, accounts payable includes trade suppliers, but accrued expenses include other expenses incurred in running the business.

Accrued expenses are expenses that have been incurred during the current period but will not be paid until the following period. A common example is wages. Because the end of the pay period and the end of the financial period occur on different days, it is necessary to include an accrual for wages payable from the date of last payment to the day on which the accounting period finishes; that is, the employees have done the work but will not be paid for this work until after the end of the financial year. Therefore, at year-end, the organisation has a liability. It is usually called 'accrued wages' or 'wages payable'.

For example, assume wages are paid weekly (on Thursday) to cover the previous five working days before the Thursday. If 30 June falls on a Friday, two days' wages will be owing at 30 June. If the weekly wages bill is \$500 000, then \$200 000 (Thursday and Friday) will be owing.

	Assets	=	Liabilities	+	Equity
			Accrued wages		Expense
30 June			+200 000		−200 000
Total			+200 000		−200 000

Wages expense is increased because it is an expense of the period, and accrued wages (or wages payable) is increased because there is a liability at the end of the period. Other examples of accruals would be interest expense and electricity charges owing at the end of a period.

The journal entry will be:

			\$	\$
30 June	DR	Wages expense	200 000	
	CR	Accrued wages		200 000

Accrual of unrecorded revenues

The accrual of unrecorded revenues occurs when a service has been provided but cash will not be received until the following period. Common examples of accrued revenues include interest receivable on loans, commissions earned and unbilled revenues. For example, assume a company deposited \$500 000 with a bank for one year at 4 per cent on 1 January 2019 (interest payable at the end of the period). At 30 June 2019, it would have earned \$10 000 interest, although the total interest of \$20 000 would not be received until 31 December 2019.

Accrued interest revenue (also called 'interest receivable'), which is an asset, would be increased by \$10 000, and interest revenue would be increased by \$10 000.

	Assets	=	Liabilities	+	Equity
	Accrued interest revenue				Interest revenue
30 June	+10 000				+10 000
Total	+10 000				+10 000

Accrued interest revenue (or interest receivable) is a current asset that will appear in the balance sheet, and interest revenue is a revenue account that will appear in the income statement for the year ended 30 June 2019.

The journal entry would be:

			\$	\$
30 June	DR	Accrued interest revenue	10 000	
	CR	Interest revenue		10 000

An interesting example of accrued revenue is provided in the 2017 Telstra accounts. Telstra bills its customers either monthly or quarterly. When it bills customers, it increases accounts receivable and increases sales revenue. When the cash is received, cash is increased and accounts receivable is decreased. However, at 30 June there will be a lot of telephone calls that have been made but not yet billed. For example, if you receive a bill on 1 June (and you are billed quarterly), you will not receive another bill until 1 September. As telephone calls have been made in June, Telstra has provided the service; therefore, it is entitled to recognise the revenue. Telstra's financial statements (note 10) show accrued revenue of $1155 million ($1093 million in 2013) under current assets. That is, at the end of the year, it increased accrued revenue and increased sales revenue.

HOW'S YOUR UNDERSTANDING?

5J What effect would failure to make adjustments for accrued expenses have on the income statement and the balance sheet?

5K A company has a $50 000 balance in the company's unearned service revenue account. Where would this account appear in the balance sheet?

5.3 Multi-column worksheets

LO5

Multi-column worksheets are a useful device to help you prepare financial statements where there are many adjusting entries. For example, with a 10-column adjusted worksheet, start with the pre-adjusted trial balance (columns 1 and 2), then include adjusting entries (columns 3 and 4), followed by the adjusted trial balance (columns 5 and 6), income statement numbers (columns 7 and 8) and balance sheet numbers (columns 9 and 10).

Where adjusting entries refer to a particular ledger account in the pre-adjusted trial balance (e.g. prepayments), the amount of the adjusting entry should be entered in the appropriate adjustment column opposite the relevant ledger account. When the debit or credit part of the adjusting entry refers to a ledger account that is not in the unadjusted trial balance, the name of that ledger account should be added to the bottom of the trial balance and the amount entered opposite it in the appropriate adjustment column.

To further illustrate the above adjustments, consider the trial balance in Exhibit 5.2 and the following information:

- The company prepares accounts annually.
- Ending office supplies on hand was $13 million.
- Prepayments related to insurance policies taken out on 1 October 2019 for one year.
- Unearned revenue relates to a six-month service agreement starting on 1 November.
- At the end of the year, wages of $3 million were still owing.
- An electricity bill was received on 10 January showing that electricity costs for December 2019 were $2 million.
- Of the cash balance, $27 million was on fixed deposit with the bank. The accrued interest at the end of the year was $1 million.

EXHIBIT 5.2

WESTBANK LTD

TRIAL BALANCE AT 31 DECEMBER 2019

	DR $m	CR $m
Cash	30	
Accounts receivable	180	
Inventory	220	
Office supplies	30	
Prepayments	40	
Accounts payable		150
Unearned revenue		30
Loan		100
Share capital		80
Retained profits		40
Sales		950
Interest revenue		50
Cost of goods sold	300	
Insurance expense	100	
Wages expense	400	
Electricity expense	20	
Other expenses	80	
	1 400	1 400

The following journal entries would be required:

			$m	$m
Dec. 31	DR	Office supplies expense	17	
	CR	Office supplies		17
		To record supplies used during the period		
Dec. 31	DR	Insurance expense	10	
	CR	Prepayments		10
		To record expiration of insurance coverage		
Dec. 31	DR	Unearned revenue	10	
	CR	Fees revenue		10
		Recognising revenue for fulfilling part of service contract		
Dec. 31	DR	Wages expense	3	
	CR	Accrued expenses		3
		To record accrued salaries at year-end		
Dec. 31	DR	Electricity expense	2	
	CR	Accrued expenses		2
		To record accrued electricity at year-end		
Dec. 31	DR	Accrued revenue	1	
	CR	Interest revenue		1
		To record accrued revenue at year-end		

After these entries have been posted to the ledger accounts, a multi-column worksheet such as Exhibit 5.3 could be used to provide an adjusted trial balance and inputs for the income statement and balance sheet in Exhibit 5.4.

EXHIBIT 5.3

WESTBANK LTD

TRIAL BALANCE AT 31 DECEMBER 2019

	Trial balance		Adjustments		Adjusted trial balance		Income statement		Balance sheet	
Account name	**Debit**	**Credit**	**Debit**	**Credit**	**Debit**	**Credit**	**Debit**	**Credit**	**Debit**	**Credit**
Cash	30				30				30	
Accounts receivable	180				180				180	
Inventory	220				220				220	
Office supplies	30			17	13				13	
Prepayments	40			10	30				30	
Accrued revenue	0		1		1				1	
Accounts payable		150				150				150
Unearned revenue		30	10			20				20
Accrued expenses		0		5		5				5
Loan		100				100				100
Share capital		80				80				80
Retained profits		40				40				40
Sales		950				950		950		
Interest revenue		50		1		51		51		
Fees revenue		0		10		10		10		
Cost of goods sold	300				300		300			
Insurance expense	100		10		110		110			
Wages expense	400		3		403		403			
Electricity expense	20		2		22		22			
Other expenses	80				80		80			
Office supplies expense	0		17		17		17			
Net profit							79			79
	1 400	1 400	43	43	1 406	1 406	1 011	1 011	474	474

EXHIBIT 5.4

WESTBANK LIMITED

INCOME STATEMENT FOR THE MONTH ENDING 31 DECEMBER 2019

	$	$
Sales		950
COGS		300
Gross profit		650
Other revenue:		
Interest revenue	51	
Fees revenue	10	61
		711
Operating expenses:		
Insurance expense	110	
Wages expense	403	
Electricity expense	22	
Other expenses	80	
Office supplies expense	17	632
Net profit		79

BALANCE SHEET AS AT 31 DECEMBER 2019

Account name	$
Assets	
Current assets	
Cash	30
Accounts receivable	180
Inventory	220
Office supplies	13
Prepayments	30
Accrued revenue	1
Total assets	474
Liabilities	
Current liabilities	
Accounts payable	150
Unearned revenue	20
Accrued expenses	5
Noncurrent liabilities	
Loan	100
Total liabilities	275
Net assets	199
Shareholders' equity	
Share capital	80
Retained profits*	119
Total shareholders' equity	199

*Closing retained profits = 40 + 79 = 119

5.4 The financial period

Financial statements all have a time dimension. Balance sheets are prepared as at specific points in time, and income statements cover specified periods of time. Business, and other economic activity, carries on continuously. Therefore, if the financial statements are to be at (or begin and end at) particular dates, financial accounting must somehow find a way to separate all those activities into periods. LO1

Making effective cut-offs for revenues and expenses are a major problem for accrual accounting. Much effort is put into determining whether revenues are placed in the appropriate years, whether there are bills outstanding for expenses that should be taken into account, whether inventories of goods and supplies are actually on hand, and so on. It is generally harder to do this if an organisation has larger and less frequent revenue and expense transactions; and easier, therefore, if organisations have many short and simple transactions. But even then it can be difficult to keep track of just where the organisation stands if there are thousands of transactions in process across a year-end.

When should the financial (accounting) year begin and end? Companies have an initial choice, but once they make it, reasons relating to habit, and legal and tax rules, usually force them to stay with that choice indefinitely. They may select a financial year-end that is a relatively quiet time, so that there aren't many unfinished transactions in process, and the revenue and expense cut-offs can be made more cleanly.

A large majority of Australian public companies have 30 June as their financial year-end. One reason for this is that it coincides with the end of the tax year. However, this is certainly not the only reason to use 30 June, as it is possible in Australia to use a substituted accounting period for taxation purposes, provided permission is received from the Australian Taxation Office. Financial year-ends vary substantially between countries. For example, in the United States, Canada, Singapore and Malaysia, 31 December is the most common date, while in the United Kingdom, New Zealand and Japan, 31 March is most common.

Examples of Australian companies with balance dates other than 30 June include those shown below.

Date	Company
31 March	James Hardie Industries
	Macquarie Bank
31 July	Washington H Soul Pattinson
31 August	Ten Network Holdings Limited
30 September	Orica Australia
	Australia and New Zealand Banking Group
	Westpac
	National Australia Bank
31 December	Coca-Cola Amatil
	Caltex

5.5 Contra accounts

Most balance sheet accounts can be considered to be a control account. Accounts receivable is the sum of all the individual customers' accounts. Inventory is the amount that should be found if the company lists or counts all the unsold goods physically on hand. Accounts payable is the sum of all the individual suppliers' accounts. The number of shares outstanding should be traceable to the share capital account. (The particular owners may change, for example, because of trading on the stock market, but the company should always know how many shares it has issued and what it originally received for them.) Even the property, plant and equipment asset accounts are controls, as all the assets whose costs are included should be physically present. LO6

The value of all these accounts as control accounts is that the amounts in them should be supported by, or reconcilable to, detailed lists or subsidiary ledgers, or some such background data. For example, the accounts receivable ledger account will balance with the sum of all the individual debtor accounts

(i.e. individual accounts receivable). What do we do, then, when we want to make a change in a balance sheet account without changing the underlying records and lists? Here are some examples of when we might want to change an asset account and why, at the same time, we might be reluctant to do it:

- A company has become concerned that it might not collect all the accounts receivable, so, for proper profit measurement, it wants to recognise that it has probably suffered some 'bad debts' expense. However, we do not want to change the accounts receivable control account because it should correspond to the list of customers' accounts, and we have not yet given up on collecting any accounts receivable, so the control feature is still useful. We address this issue in Chapter 8.
- The property and plant assets are being used up gradually so the company wants to record depreciation expense as part of profit measurement. However, it does not want to change the asset cost account balances because their costs are not changing, but rather their economic values are being used up. We address this issue below.

In these examples, the financial statement objectives of proper asset valuation and profit measurement seem to conflict with maintaining the accounts for control purposes. To address this problem a 'contra account' has been invented to allow us to recognise expenses and related value changes to assets without changing the control account. It is useful both for profit measurement and to preserve the internal control aspects of the accounts. Therefore, it provides a bridge between accounting's role in internal control (which is outlined in Chapter 7) and in financial statement preparation.

Contra accounts have balances that are in the *opposite direction* to those of the control account with which they are associated. For example, contra asset accounts have credit balances that are 'contra' the assets' debit balances. *Contra accounts only have meaning in conjunction with the control accounts to which they are matched*. We'll see below how this works.

Here we will focus only on one very common use of contra accounts: accumulated depreciation. Virtually all organisations have this account. The account illustrates how the accounting system can meet one objective (expense recognition) and avoid compromising another objective (control) by creating an account that recognises expenses but does not change the control account related to those expenses (asset costs).

Accumulated depreciation

Contra accounts are used to accumulate depreciation on fixed assets, such as buildings and equipment.

For example, for equipment which cost $500 000 and has a life of five years, the annual depreciation charge of $100 000 would be recognised as follows:

		$	$
DR	Depreciation expense	100 000	
CR	Accumulated depreciation		100 000

The debit is an expense account in the income statement. The credit is a contra asset account. The credit side of the journal entry could have been to the asset account 'equipment'. Instead the contra account is used, so that by leaving the asset cost account alone, the balance sheet presents the acquisition cost of the asset ($500 000) along with the accumulated amount of expense ($100 000) that has been recognised to date. Showing both these items allows users to make a rough guess as to how long the asset has been in service. Remember that accumulated depreciation on the balance sheet is the amount of depreciation accumulated over the life of the asset to date, whereas the amount of depreciation charged this year (to match the revenues the asset consumption is presumed to have helped generate) can be determined from the depreciation expense account in the income statement.

Let's look at a simple example involving an electrician's purchase of a new truck. The truck cost $40 000 and an annual depreciation expense of $8000 was determined. Each year, the depreciation expense account would be increased by $8000 and the contra asset account (called 'accumulated depreciation') would be increased by $8000. (In Chapter 10 we discuss various depreciation methods. Here we introduce the most important method called straight-line depreciation.)

The journal entry would be:

		$	$
DR	Depreciation expense	8000	
CR	Accumulated depreciation		8000

On the balance sheet, the asset account for the truck's cost would continue to show a balance of $40 000, but each year the accumulated depreciation contra asset account would increase by $8000. Deducting accumulated depreciation from the long-term asset account leaves a figure known as the net book value. So we would have:

	Cost $	Accumulated depreciation $	Net book value $
Date of purchase	40 000	0	40 000
End of first year	40 000	8 000	32 000
End of second year	40 000	16 000	24 000

If the truck were sold at any time, the cost would be removed from the ledger, but so would the contra account. The contra is meaningful only in comparison to the cost – when the truck is gone, neither account is needed any more. Suppose the truck were sold for $27 000 at the end of the second year. At this point, the accumulated depreciation is $16 000 ($8000 + $8000) and the book value is $24 000 ($40 000 – $16 000). If the company receives $27 000, it makes a gain of $3000. This gain (usually called gain on sale or profit on sale) is a revenue item. These effects are shown as follows:

		Assets		= Liabilities	+	Equity
	Cash	Truck	Accumulated depreciation		Revenue	Expense
Purchase	−40 000	+40 000				
Year 1			−8 000			−8 000
Year 2			−8 000			−8 000
Subtotal	−40 000	+40 000	−16 000			−16 000
Sale of truck	+27 000	−40 000	+16 000		+3 000	

The journal entry is:

		$	$
DR	Cash	27 000	
CR	Truck asset		40 000
DR	Truck accumulated depreciation	16 000	
CR	Gain on sale of truck		3 000

The gain on sale is just the difference between the proceeds and the net book value at the date of sale. If the proceeds had been $19 000 instead, the debit to cash would have been $19 000 and there would have been a debit to loss on sale (an 'other expense' account in the income statement) for $5000, the difference between the proceeds ($19 000) and the net book value ($24 000).

When non-physical assets, such as licences, patents and trademarks, are amortised, the accumulated amortisation account is used instead of accumulated depreciation. Gains, losses and write-offs on such assets are calculated just as for the physical assets illustrated above.

5.6 Illustrative example

LO5 Below, we provide an example to reinforce the material covered in Chapters 4 and 5. It covers journal entries, posting to the ledger, trial balance, adjustments, closing entries and preparation of financial statements.

Scanlon Limited had the following trial balance at 1 January 2019:

	Debit $	Credit $
Cash	200 000	
Accounts receivable	600 000	
Inventory	700 000	
Prepaid insurance	60 000	
Prepaid rent	50 000	
Equipment	1 000 000	
Accumulated depreciation		200 000
Accounts payable		500 000
Revenue received in advance		100 000
Income tax payable		500 000
Loan		570 000
Share capital		420 000
Retained profits		320 000
	2 610 000	2 610 000

During January 2019, the following transactions occurred:

- a Cash sales $700 000.
- b Credit sales $6 100 000.
- c Cost of goods sold $3 000 000.
- d Inventory purchased on credit $2 600 000.
- e Cash collected from customers $5 800 000.
- f Cash paid to suppliers $2 800 000.
- g Paid income tax liability.
- h Paid salaries $1 200 000, commission $600 000, other operating expenses $100 000.
- i Paid $40 000 for insurance.
- j Paid $30 000 in rent (the company debits prepaid rent).
- k Depreciation expense is calculated at 12 per cent per annum on cost.
- l Closing balances in the prepaid insurance and prepaid rent accounts at the end of January 2019 should be $70 000 and $60 000, respectively.
- m The $100 000 revenue received in advance related to a service contract that has now been fulfilled in whole.
- n The bank owes Scanlon Ltd $5000 for interest at the end of January.

The following steps will be carried out:

1. Prepare journal entries for the above transactions (Exhibit 5.5).
2. Enter the opening balances in the ledger accounts and post the journal entries to the ledger (Exhibit 5.6).
3. Prepare a trial balance at 31 January 2019 (Exhibit 5.7).
4. Prepare closing entries (Exhibit 5.8).

5 Prepare a post-closing trial balance (Exhibit 5.9).

6 Prepare an income statement for the month of January 2019 and a balance sheet as at 31 January 2019 (Exhibits 5.10 and 5.11).

Before preparing the financial statements, the revenue and expense accounts are closed via the closing journal entries (Exhibit 5.8). They start with a zero balance in the next accounting period to enable profit for that period to be calculated.

After posting these journal entries, a post-closing trial balance is prepared (Exhibit 5.9). The income statement and the balance sheet are provided in Exhibits 5.10 and 5.11.

EXHIBIT 5.5

SCANLON LIMITED

JOURNAL ENTRIES

				$	$
a	Jan. 19	DR	Cash	700 000	
		CR	Sales		700 000
			To record cash sales		
b	Jan. 19	DR	Accounts receivable	6 100 000	
		CR	Sales		6 100 000
			To record credit sales		
c	Jan. 19	DR	COGS	3 000 000	
		CR	Inventory		3 000 000
			To record cost of goods sold		
d	Jan. 19	DR	Inventory	2 600 000	
		CR	Accounts payable		2 600 000
			To record credit purchases		
e	Jan. 19	DR	Cash	5 800 000	
		CR	Accounts receivable		5 800 000
			To record payments from debtors		
f	Jan. 19	DR	Accounts payable	2 800 000	
		CR	Cash		2 800 000
			To record payment of accounts payable		
g	Jan. 19	DR	Income tax payable	500 000	
		CR	Cash		500 000
			To record payment of tax		
h	Jan. 19	DR	Salaries expense	1 200 000	
		DR	Commission expense	600 000	
		DR	Other expenses	100 000	
		CR	Cash		1 900 000
			To record payment of expenses		
i	Jan. 19	DR	Prepaid insurance	40 000	
		CR	Cash		40 000
			To record payment of insurance premium		
j	Jan. 19	DR	Prepaid rent	30 000	
		CR	Cash		30 000
			To record payment of rent		

>

k	31 Jan. 19	DR	Depreciation expense	10 000	
		CR	Accumulated depreciation		10 000
			To record one month's depreciation		
l	31 Jan. 19	DR	Insurance expense	30 000	
		CR	Prepaid insurance		30 000
			To record insurance expense for the month		
l	31 Jan. 19	DR	Rent expense	20 000	
		CR	Prepaid rent		20 000
			To record rent expense for the month		
m	31 Jan. 19	DR	Revenue received in advance	100 000	
		CR	Service fee revenue		100 000
			To record the earning of service fee revenue for the month		
n	31 Jan. 19	DR	Accrued revenue	5 000	
		CR	Interest revenue		5 000
			To record the earning of interest revenue for month		

EXHIBIT 5.6

SCANLON LIMITED

LEDGER ACCOUNTS

Cash

OB		200 000		f	2 800 000
	a	700 000		g	500 000
	e	5 800 000		h	1 900 000
				i	40 000
				j	30 000
CB		1 430 000			

Inventory

OB		700 000		c	3 000 000
	d	2 600 000			
CB		300 000			

Prepaid rent

OB		50 000		l	20 000
	j	30 000			
CB		60 000			

Accrued revenue

	n	5 000			

Accounts receivable

OB		600 000			5 800 000
	b	6 100 000			
		900 000			

Prepaid insurance

OB		60 000		l	30 000
	i	40 000			
CB		70 000			

Equipment

OB		1 000 000			

Accumulated depreciation

			OB		200 000
				k	10 000
			CB		210 000

Revenue received in advance

	m	100 000	OB		100 000
			CB		0

Accounts payable

f	2 800 000	OB	500 000
		d	2 600 000
		CB	300 000

Loan

		OB	570 000

Retained profits

		OB	320 000

Service fee revenue

		m	100 000

Cost of goods sold

c	3 000 000		

Other expenses

h	100 000		

Commission expense

h	600 000		

Depreciation expense

k	10 000		

Income tax payable

g	500 000	OB	500 000
		CB	0

Share capital

		OB	420 000

Sales

		a	700 000
		b	6 100 000
			6 800 000

Interest revenue

		n	5 000

Salaries expense

h	1 200 000		

Insurance expense

l	30 000		

Rent expense

l	20 000		

EXHIBIT 5.7

SCANLON LTD

PRE-CLOSING TRIAL BALANCE AT 31 JANUARY 2019

	Debit $	Credit $
Cash	1 430 000	
Accounts receivable	900 000	
Inventory	300 000	
Prepaid insurance	70 000	
Prepaid rent	60 000	
Accrued revenue	5 000	
Equipment	1 000 000	
Accumulated depreciation		210 000
Accounts payable		300 000
Revenue received in advance		0
Income tax payable		0
Loan		570 000
Share capital		420 000
Retained profits		320 000
Sales		6 800 000

Service fee revenue		100 000
Interest revenue		5 000
Cost of goods sold	3 000 000	
Salaries expense	1 200 000	
Depreciation expense	10 000	
Insurance expense	30 000	
Rent expense	20 000	
Commission expense	600 000	
Other expenses	100 000	
	8 725 000	8 725 000

EXHIBIT 5.8

SCANLON LTD

CLOSING JOURNAL ENTRIES

		$	$
DR	Sales	6 800 000	
DR	Service fee revenue	100 000	
DR	Interest revenue	5 000	
CR	Profit and loss summary		6 905 000
DR	Profit and loss summary	4 960 000	
CR	Cost of goods sold		3 000 000
CR	Salaries expense		1 200 000
CR	Depreciation expense		10 000
CR	Insurance expense		30 000
CR	Rent expense		20 000
CR	Commission expense		600 000
CR	Other expenses		100 000
DR	Profit and loss summary	1 945 000	
CR	Retained profits		1 945 000

EXHIBIT 5.9

SCANLON LTD

POST-CLOSING TRIAL BALANCE

	Debit $	Credit $
Cash	1 430 000	
Accounts receivable	900 000	
Inventory	300 000	
Prepaid insurance	70 000	
Prepaid rent	60 000	
Accrued revenue	5 000	
Equipment	1 000 000	
Accumulated depreciation		210 000
Accounts payable		300 000
Revenue received in advance		0
Income tax payable		0
Loan		570 000
Share capital		420 000
Retained profits		2 265 000
	3 765 000	3 765 000

EXHIBIT 5.10

SCANLON LTD

INCOME STATEMENT FOR THE MONTH ENDING 31 JANUARY 2019

	$	$
Sales:		6 800 000
Cost of goods sold		3 000 000
Gross profit		3 800 000
Other revenue:		
Service fee revenue	100 000	
Interest revenue	5 000	105 000
		3 905 000
Operating expenses:		
Salaries	1 200 000	
Depreciation	10 000	
Insurance	30 000	
Rent	20 000	
Commission	600 000	
Other expenses	100 000	1 960 000
Net profit		1 945 000

EXHIBIT 5.11

SCANLON LTD

BALANCE SHEET AS AT 31 JANUARY 2019

	$	$
Assets		
Current assets		
Cash		1 430 000
Accounts receivable		900 000
Inventory		300 000
Prepaid insurance		70 000
Prepaid rent		60 000
Accrued revenue		5 000
		2 765 000
Noncurrent assets		
Equipment	1 000 000	
Accumulated depreciation	210 000	790 000
Total assets		3 555 000
Liabilities		
Current liabilities		
Accounts payable		300 000
Noncurrent liabilities		
Loan		570 000
Total liabilities		870 000
Net assets		2 685 000
Shareholders' equity		
Share capital		420 000
Retained profits*		2 265 000
Total shareholders' equity		2 685 000

*Closing retained profits = Opening retained profits + Net profit − Dividends declared
= 320 000 + 1 945 000 − 0
= 2 265 000

5.7 Managers and accrual accounting assumptions

LO7 Accrual accounting's purpose is to move beyond cash flows towards a broader economic concept of profit and financial position. From a manager's point of view, this has several important implications:

- As a more inclusive way of measuring performance and position, accrual accounting should reflect more of what a manager is trying to do than cash flow can. This should make accrual accounting attractive to managers who want to be evaluated fairly and who are interested in comparing their companies with others. For example, by including revenues and expenses and the accompanying assets and liabilities (e.g. accounts receivable, accounts payable), the financial statements provide a more complete picture of performance and position.

- This attractiveness depends on how complete accrual accounting is in representing managers' performance. Here, there is a limitation that often frustrates managers: accrual accounting, based on the historical transaction base of record-keeping, is better suited to measuring past performance than to looking into the future, as managers are inclined to do.
- To many people, profits should be defined as changes in the value of the company. Economic earnings can be defined as increases in value. Value changes are a function of performance, but also of expectations and of the market prices for assets and whole companies. The evidence-based accounting procedures for revenue recognition and expense recognition, and matching them to measure profit, may not relate very well to economic concepts of earnings, or to managers' struggles to increase the value of their companies. Gradually, accounting is moving much more towards incorporating the 'fair value' rather than historical costs of certain assets. You will learn about these complications in subsequent accounting courses.
- The criteria for when and how to recognise revenues and expenses are inescapably judgemental, and therefore have both an arbitrary and a subjective aspect. Earlier chapters have suggested that some managers may be motivated to manipulate accounting results, and accrual accounting procedures can be a way of doing this. However, it should also be said that many managers find accrual accounting too loose and flexible and would prefer less estimation and subjectivity. These are the issues that regulators face as accounting standards evolve over time.
- Modern finance theory, which is influential in the evaluations by financial markets, banks and takeover specialists, makes much of cash flows, but, as you have seen, cash flow does not necessarily connect well with accrual accounting's profit figure. That is, revenue and expenses are recognised when the work is performed not when cash is received. This connection is worse the shorter the period (e.g. cash flow and accrual profit are probably similar over a 10-year period, but are unlikely to be similar over a month).

Another reason, therefore, for managers to take financial accounting seriously is so that they can know when the accounting measures seem appropriate and when they do not. Accrual accounting has many advantages and is very widely used, but managers should not accept it uncritically. As a future manager, you can be almost certain that accrual accounting numbers will affect your performance evaluation in your career. It is always good to know the rules by which you are being evaluated and often rewarded.

To illustrate our point, remember that virtually every annual report mentions the very strong connection between profit and executive rewards. For example, JB Hi-Fi's 2017 annual report discusses the important connection between the two:

> EBIT is considered by the Company to be the most relevant measure of the Group's financial performance as it is a key input in driving and growing long term shareholder value and is directly influenced by the performance of the executive team.
>
> JB Hi-Fi Limited, *Annual Report 2017*, page 33

Note that EBIT is earnings before interest and tax, i.e. accrual profit before deducting off interest expenses and tax expenses.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Adjusting journal entries

It is the end of International Fabrics Ltd's financial year. You are working on the company's financial statements, and have discovered the items a–f listed below. For each item:

1. State whether or not the item requires that an adjustment be made in the company's accounts according to the principles of accrual accounting.
2. If the answer to question 1 is yes, write a journal entry to adjust the company's accounts.
   - a $3200 of sales made on account just before the end of the financial year was not recorded until the beginning of the next year.
   - b The cost of goods sold for those sales, totalling $1900, has not yet been recognised.
   - c During the year, deposits of $5300 were made by customers on special orders and were credited to the deposit liability account. Deposits of $1400 are still being held, but all the other special orders have been completed and the customers have paid the rest of the price for those orders (those payments are included in sales revenue).
   - d Maintenance expenses seemed rather high, and on investigation it turned out that an addition to the company's store, constructed over a period of several months at a cost of $62 320, had been included in the maintenance expenses.
   - e The company's auditors sent a bill for $2350 for the year's audit work.
   - f Just before the year-end, the company bought a motor vehicle for $17 220 on credit.

PRACTICE PROBLEM B

Revenues and expenses

The following transactions occurred between 1 July 2018 and 30 June 2019 for AKH Limited.

- a Issued share capital for $600 000 cash.
- b Purchased $70 000 of inventory on credit.
- c Paid $56 000 to accounts payable.
- d Sold inventory costing $120 000 for $340 000. All sales are on credit.
- e Received $220 000 from accounts receivable.
- f Paid dividends of $60 000.
- g Borrowed $200 000 on 1 July 2018. The loan is due on 30 June 2021 and carries a 10 per cent p.a. interest rate. Paid $8000 interest on this loan during 2019.
- h Paid wages of $180 000; wages of $40 000 had been earned by employees but not paid at year-end.
- i On 1 June received a deposit of $80 000 for work to be carried out in the next year.
- j Used $22 000 of electricity during the year for which the company has not yet been billed.
- k Paid a $24 000 insurance policy on 1 October 2018, covering 1 October 2018 to 30 September 2019.

Required:

1. List all revenues for the year (including dollar amounts).
2. List all expenses for the year (including dollar amounts).
3. By how much did the cash balance increase during the year?

PRACTICE PROBLEM C

Accounting transactions: reconstruction required

The balance sheet and income statement of Reconstruction Limited are reproduced below.

RECONSTRUCTION LIMITED
BALANCE SHEET

	31/12/2019	31/12/2018
Assets		
Cash	0	5 000
Accounts receivable	40 000	27 000
Prepaid insurance	3 000	2 000
Equipment	90 000	90 000
less Accumulated depreciation	(31 000)	(22 000)
Motor vehicle	25 000	25 000
less Accumulated depreciation	(10 000)	(5 000)
Total assets	117 000	122 000
Liabilities		
Accounts payable	500	1 000
Wages payable	6 000	4 000
Interest payable	2 500	3 000
Income tax payable	0	2 000
Long-term loan	50 000	50 000
Total liabilities	59 000	60 000
Net assets	58 000	62 000
Shareholders' equity		
Share capital	39 000	39 000
Retained profits	19 000	23 000
Total shareholders' equity	58 000	62 000

RECONSTRUCTION LIMITED
INCOME STATEMENT FOR THE YEAR ENDED 31 DECEMBER 2019

	$	$
Fees revenue		105 000
Depreciation expense	(14 000)	
Electricity expense	(8 000)	
Insurance expense	(17 000)	
Interest expense	(4 500)	
Rent expense	(24 000)	
Stationery expense	(3 500)	
Wages expense	(38 000)	(109 000)
Profit/(loss) before tax		(4 000)
Income tax expense		0
Profit/(loss) after tax		(4 000)

1 How much cash was paid for insurance during the year?
2 How much cash was paid for electricity during the year?
3 How much cash was paid for interest during the year?
4 How much cash was paid for income tax during the year?
5 The last monthly rent payment was made on 15 December 2019. Monthly rent is $2000 per month. How much rent is owing as at the end of the year?

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 Explain the difference between a revenue and a cash receipt.
2 Give examples of items that are revenue for a given period but not receipts for that period, items that are receipts but not revenue, and items that are both revenue and receipts.
3 Explain the difference between an expense and a cash disbursement.
4 Give examples of items that are expenses for a given period but not disbursements for that period, items that are disbursements but not expenses, and items that are both expenses and disbursements.
5 Outline some basic differences between cash accounting and accrual accounting.
6 'The closer to cash, the more precise the measure.' Discuss this statement with respect to cash and accrual accounting.
7 'The more that accountants try to make financial statements economically relevant, the more they must include estimates and other sources of imprecision or error.' Discuss.
8 What is the purpose of accrual accounting adjustments?
9 For each of the accrual accounting adjustments, explain the impact on profit for the period and the balance sheet.
10 Your old school friend has joined the maintenance group of a large airline. He asks you the following question: 'Our customers pay us large amounts of cash but we call this a liability. Surely it has to increase profits?' How would you answer?
11 The accountant at a large mining company tells you that they have some contractors who do the work but often don't get around to billing for about three months after the job is complete. She notes: 'It's great for our cash flow, but causes us lots of work at year-end.' Explain this comment.
12 What is the purpose of depreciating noncurrent assets?
13 What is the difference between depreciation and accumulated depreciation?
14 For a manager thinking about disposing of some assets, why is book value important?
15 Respond, in point form, to the following complaint by a businessperson: 'I find modern financial accounting really annoying. The basis of financial strength is the availability and use of real resources, such as cash and machinery, yet accrual accounting produces a profit measure that is deliberately different from the cash return earned by the business. Why is this so? Why should accrual accounting diverge from the measurement of cash flow?'
16 On 31 December, the end of the accounting period of Ultra Corp., the company accountant is about to make some adjustments. Describe a set of circumstances where, in making the typical year-end adjustments:
   a an expense is debited and a liability is credited
   b an expense is debited and an asset contra account is credited
   c an asset is debited and revenue is credited
   d a liability is debited and revenue is credited.

17 If management wished to overstate profit during the year, consider the implications for each of the following adjustments (that is, what actions could be taken by fraudulent management to increase profits?):

- a prepayments
- b unearned revenue
- c accrued expenses
- d accrued revenue.

18 Accrual-based financial reports prepared by departments or governments will differ significantly from cash-based reports covering the same period. Provide some examples of the information provided in accrual-based financial reports but not cash-based financial reports.

PROBLEMS

PROBLEM 5.1

Cash versus accrual accounting

Penshurst Ltd began business on 1 July 2018 with each of the two owners contributing $25 000 cash. The company paid $2200 in advance for a two-year lease of its retail premises. Inventory worth $3500 was purchased in the first month of operation; by 30 June 2019, $1200 of that inventory remained. Sales revenue of $9500 was invoiced during the year, although $2000 of this amount is yet to be collected.

During the year, wages totalling $1300 were paid to employees and $900 was paid for various administrative expenses. The company received an advertising invoice for $1100 as well as a utilities bill for $385; these are yet to be paid as at 30 June 2019.

1 Prepare a cash-basis income statement for Penshurst Ltd for the year ended 30 June 2019.

2 Prepare an accrual-basis income statement for Penshurst Ltd for the year ended 30 June 2019.

PROBLEM 5.2

Cash versus accrual accounting

Greenthumbs Ltd opened a gardening consulting company on 1 August 2019 with each of the two owners contributing $20 000 cash. A one-year bank loan of $80 000 at 6 per cent per annum was obtained from the bank on 1 August, with principal and interest to be repaid at the end of the loan. An insurance policy for 12 months was taken out on 1 August 2019 for $600. Three months' office rental for $900 was paid in advance on 1 August 2019. Consulting revenue of $12 000 was earned during the month, but $4000 had not been received at the end of August. A truck that cost $36 000 was paid for in cash on 1 August. It had an expected life of three years and zero residual value. Cash expenses during the month were: wages, $600; other expenses, $400. Unpaid bills at month's end were: electricity, $100; wages, $200. Prepare an income statement for August 2019 under (a) an accrual basis and (b) a cash basis of accounting.

PROBLEM 5.3

Journal entries for revenue and expense recognition

Entertainment Ltd will be hosting a concert on 29 August 2019. Entertainment Ltd has the following transactions in August 2019 associated with the concert and its business. Prepare the journal entries (for 1–3) in good form using the most appropriate account titles (as referenced in the table below).

Accounts payable	Concert equipment	Prepaid venue expense
Accounts receivable	Concert revenue	Retained earnings
Building	Long-term investment	Unearned revenue
Cash	Note payable	Venue expense
Cost of goods sold	Note receivable	Wages expense

Transactions:

1 Entertainment Ltd sold 10 000 tickets and collected payment on 1 August for the 29 August concert. Tickets were priced at $50 each.

2 Entertainment Ltd paid $90 000 cash to TEK Arena on 4 August to host the 29 August concert.
3 Entertainment Ltd performed the concert on 29 August. (Note: there are two transactions necessary to be recorded on 29 August.)

PROBLEM 5.4

Revenue, expenses and cash

Mortdale Ltd provides one-day training programs in accounting. It charges $7000 per day. The following events occurred for the company in the month of June 2019.

a Received $62 000 from accounts receivable for sales in previous months.
b Paid three months' rent of $36 000 covering 1 June 2019 to 31 August 2019.
c Received orders for 70 days' training during the month. Delivered 60 days of the training during the month and received payment for 30 of these days.
d Signed a contract to design a special program for lawyers at a price of $50 000. Design will commence in July. Received a $6000 deposit.
e Paid $500 000 for new equipment on 1 June and $100 000 to install it. The equipment has a life of 10 years.
f A contract was signed with a new CEO for $1 000 000 per year. The CEO will start on 1 July.
g Paid wages during the period of $60 000 with accrued wages of $10 000 owing at the end of the month.
h Declared and paid a dividend of $40 000.
i Borrowed $24 000 on 1 June from the bank at 10 per cent per annum. Interest and principal repayable in 10 months.

Required:

1 Determine total revenue for the month of June 2019.
2 List all expenses for the month of June 2019 (including dollar amounts).
3 Assume an opening balance in the cash account of $600 000. What is the closing balance of this account?

PROBLEM 5.5

Revenue and expenses

Oatley Ltd started business on 1 July 2019 and had the following transactions on 1 July:

a Issued 300 000 shares of $1 for $300 000 cash.
b Bought equipment for $400 000, paying cash. The equipment has a five-year life.
c Bought $90 000 inventory on credit.
d Paid $10 000 for a year's rent on a building.
e Took out a two-year $400 000 bank loan at an interest rate of 7 per cent per annum. The interest is not payable until the end of the loan.

Between 1 July and 31 December, the following transactions occurred:

f Sold inventory that cost $100 000 for $180 000. All sales were on credit.
g Paid $50 000 to suppliers of inventory for the credit purchases in (c) above.
h Collected $90 000 from customers.
i Paid salaries of $20 000.
j Received an $8000 deposit from a customer for work to be completed next February.

On 31 December:

k Salaries of $6000 had been earned but not paid.
l Owed $15 000 by the bank for interest.

For the period 1 July to 31 December 2019:

1 List all revenues (including dollar amounts) that will appear in the income statement.
2 List all expenses (including dollar amounts) that will appear in the income statement.
3 List all operating cash inflows and outflows (refer to Chapter 1).

PROBLEM 5.6

Revenues, expenses and liabilities

COMO LTD
BALANCE SHEET AS AT 31 DECEMBER 2018

	$		$
Assets		**Liabilities**	
Cash	168 000	Accounts payable	200 000
Accounts receivable	312 000	Wages payable	16 000
Inventory	320 000	Unearned service revenue	256 000
Prepaid rent expense	88 000	**Total current liabilities**	472 000
Total current assets	888 000	Long-term debt	0
Land	1 520 000	**Total liabilities**	472 000
Equipment	3 200 000	**Shareholders' equity**	
Less accumulated depreciation	(640 000)	Share capital	4 240 000
Total noncurrent assets	4 080 000	Retained profits	256 000
		Total shareholders' equity	4 496 000
Total assets	4 968 000	**Total liabilities and shareholders' equity**	4 968 000

The following transactions occurred during the year ended 31 December 2019 for Como Ltd:

a Issued share capital for $400 000 cash.
b Expiration of prepaid rent expense (i.e. prepaid rent expense balance to zero).
c Purchased $90 000 of inventory on credit.
d Paid $56 000 to accounts payable.
e Sold inventory costing $200 000 for $380 000. All sales are on credit.
f Collected $120 000 from accounts receivable.
g Depreciated equipment for the year using the straight-line method (10 per cent per annum).
h Dividends paid totalled $65 000.
i Borrowed $150 000 on 1 January 2019. The loan is due on 30 June 2021 and carries a 10 per cent per annum interest rate. Paid $13 000 interest on this loan during the year ended 31 December 2019.
j On 1 April paid $30 000 for an insurance policy covering 1 April 2019 to 31 March 2020.
k Paid wages of $170 000; wages of $30 000 had been earned but not paid to the first pay period in 2020.
l Is owed $9500 in interest from the bank at year-end.
m At 31 December 2019 the unearned revenue account balance had reduced to $10 000.

Required:

1 List all revenues (including dollar amounts) that will appear in the income statement for the year ended 31 December 2019.
2 List all expenses (including dollar amounts, ignoring taxation) that will appear in the income statement for the year ended 31 December 2019.
3 List all current liabilities at 31 December 2019 (including dollar amounts).

PROBLEM 5.7

Effect on revenue, expenses, assets and liabilities

The following transactions occurred during 2018–19 for Sedana Ltd, whose year-end is 30 June 2019.

1 Issued share capital for $400 000 cash.
2 Purchased $70 000 of inventory on credit.
3 Sold inventory costing $60 000 for $190 000. All sales are on credit.
4 Received $100 000 from accounts receivable.

5 Paid dividends of $40 000.
6 Paid $32 000 to accounts payable.
7 Paid wages of $90 000; wages of $10 000 had been earned by employees but not paid at year-end.
8 On 1 June 2019 received a deposit of $70 000 for work to be carried out in the next year.
9 Used $15 000 of electricity during the year for which the company has not yet been invoiced.
10 Purchased supplies costing $4000 on credit; at year-end $800 of these supplies remained.
11 Paid a $24 000 insurance policy on 1 October 2018, covering 1 October 2018 to 30 September 2019.

For each of the above transactions, events or facts, indicate the impact on revenues, expenses, assets and liabilities for the year ended 30 June 2019 by placing a + or − sign (+ for increase and − for decrease) to indicate direction in the appropriate box. Write NE if there is no effect. Include dollar amounts. Be sure to place an answer in every box.

	Revenues	Expenses	Assets	Liabilities
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

PROBLEM 5.8

Adjustments

The financial year-end for Jannali Ltd is 30 June.

a Prepaid insurance as at 1 July 2018 was $6000. This represents the cost of an insurance policy that expires on 1 March 2019.
b Jannali was entitled to a dividend revenue of $4000 which will not be received until mid-July.
c Commissions to sales personnel for the five-day working week ending 2 July 2019, totalling $9600, will be paid on 2 July.
d Sales revenue for the year included $5700 of customer deposits for products that have not yet been shipped to them.
e A total of $900 worth of stationery was charged to the office supplies expense during the year. On 30 June, $490 worth of stationery is still considered useful for next year.
f The company has a bank loan and pays interest annually (in arrears). The estimated interest cost for the calendar year ended 30 June 2019 is $5000. The interest will be paid in July.

Required:

1 Show the effect of each of the above on the accounting equation at 30 June 2019.
2 Give the adjusting journal entry for each of the above situations on 30 June 2019.

PROBLEM 5.9

Prepayments and accrued expense

1 In a recent annual report the following information is provided:

	2019 $m	2018 $m
Prepayments	50.8	52.0

Assume this amount all related to insurance and that $70 million cash was paid during the year to the insurance company. What is the insurance expense for the 2019 financial year?

2 A large soft drink manufacturer, in a recent annual report, included an amount of $306.7 million in accrued charges ($297.1 million in 2018). Assume that all these accrued charges related to wages. If the wages paid during the year were $500 million, what was the wages expense for 2019?

3 In note 10 of its 30 September 2019 annual report, OK Limited shows the following:

	2019 $m	2018 $m
Prepayment and other assets	36.2	34.4

Assume that this amount is all related to insurance and that $30 million cash was paid during the year to the insurance company. What is the insurance expense for the year ended 30 September 2019?

PROBLEM 5.10

Adjusting entry for accrued expenses

1 Employees of Donovan Ltd are paid every Friday for the five-day working week from Monday to Friday. The weekly wages expense is $115 000. The accounting year-end is 31 December. Assume this falls on a Thursday.
   a Prepare the adjusting entry for the year-end.
   b If no adjusting entry is made on 31 December, what will be the impact on net profit? What will the errors in the balance sheet be?
   c What is the journal entry made on 1 January when the staff are paid?

2 On 1 July 2019, Donovan obtained a bank loan of $100 000 at 12 per cent interest, payable yearly in arrears. The accounting year-end is 31 December.
   a What is the adjusting entry required on 31 December 2019?
   b The company's accountant forgets to prepare the above entry. What will the effect of this omission be on Donovan's financial statements?
   c Prepare the journal entry for 1 July 2020, when the first interest payment is made.

PROBLEM 5.11

Journal entries of revenue received in advance

In a recent annual report of Telstra, the following appears as the financial policy on connection fee revenue received in advance:

> Installation and connection fees that are not considered to be separate services are deferred and recognised over the average estimated customer life.
>
> Telstra Corporation Limited, *2017 Balance Sheet*.

1 What journal entries would be put through when the cash is received?

2 What journal entry would be put through when the revenue is recognised?

PROBLEM 5.12

Adjustments entries

Forbes Ltd's annual accounting year ends on 30 June. It is 30 June 2019 and all of the 2019 entries except the following adjusting entries have been made.

- **a** On 1 April 2019 the company borrowed $80 000 from a local bank at 5 per cent per annum interest. The principal and interest are payable on 30 June 2020. The borrowing was correctly recorded but no adjustment has been made for interest.
- **b** On 1 March 2019 Forbes collected six months' rent of $18 000. At that date Forbes debited Cash and credited Unearned rent revenue for $18 000.
- **c** On 1 October 2018 Forbes paid a one-year premium for fire insurance, $18 000, for coverage starting on that date. Cash was credited and Prepaid insurance was debited for this amount.
- **d** At 30 June 2019 wages earned by employees totalled $43 000. The employees will be paid in July 2019.
- **e** On 30 June 2019 the company estimated it owed $7000 for 2019 electricity costs. The amount will be paid when the invoice is received in July 2019.
- **f** Office supplies on hand at 30 June 2018 totalled $1000. Additional office supplies costing $2400 were purchased and debited to Office supplies (asset account). The count of supplies on hand at year-end was $800.

Required:

1. Using the following headings, indicate the effect of each adjusting entry and the amount of the effect. Use + for increase, – for decrease and NE for no effect.

	Assets	Liabilities	Revenues	Expenses
a				
b				
c				
d				
e				
f				

2. Prepare the adjusting journal entries.

PROBLEM 5.13

Adjusting journal entries

The annual accounting period for DEF Ltd ends on 30 June. Prepare adjusting entries for each of the following:

1. DEF was entitled to a commission of $2000 during June, but the commission will not be received until July.
2. Wages of $3000 for the five-day work period ending 3 July will be paid on 3 July. This is a Friday.
3. DEF Ltd has a $100 000 fixed deposit at 12 per cent, where interest is paid in arrears on 30 April and 30 November.
4. The office supplies account had an opening balance of $1000 on 1 July 2018. Supplies of $8000 were purchased during the year, and $900 of supplies are on hand on 30 June 2019.

PROBLEM 5.14

Adjusting entry for prepaid expense

NOP Ltd purchased a one-year insurance policy on 1 April. The entire premium of $8000 was recorded by debiting prepayments. Year-end is 30 June.

1. Give the 30 June adjusting entry.
2. What amount should be reported in the 30 June balance sheet for prepayments?
3. If no adjusting entry was made on 30 June, by how much would net profit be overstated or understated? Would assets be overstated or understated?

PROBLEM 5.15

Adjusting entry for accrued expense

ABC Ltd pays its employees every Friday for a five-day working week from Monday to Friday. The weekly payroll amounts to $150 000. The accounting year-end is 30 June.

1 Assuming that 30 June falls on Wednesday, give the year-end adjusting entry.
2 If no adjusting entry was made on 30 June, by how much would net profit be overstated or understated? What errors would be in the balance sheet?
3 Give the entry to pay the staff on 2 July.

PROBLEM 5.16

Adjusting entry for revenue received in advance

XYZ Ltd rents one office to a tenant who paid three months' rent in advance on 1 June. The firm credited unearned rental revenue to record the $6000 received. Year-end is 30 June.

1 Prepare the adjusting entry for 30 June.
2 What would be the effects on the firm's financial statements if the adjusting entry was omitted?
3 Prepare the entry in the next period to recognise the remaining portion of the rent revenue.

PROBLEM 5.17

Effects of errors on the financial statements

CBD made the following errors in adjusting the accounts at year-end (30 June).

a Did not accrue $1400 owed to the company by another company renting part of the building as a storage facility.
b Did not record $15 000 depreciation on equipment costing $115 000.
c Failed to adjust the Unearned fee revenue account to reflect that $1500 was earned by the end of the year.
d Recorded a full year of accrued interest expense on a $17 000, 9 per cent loan payable that has been outstanding only since 31 May.
e Failed to adjust Prepaid insurance to reflect that $650 of insurance coverage has been used.

Required:

1 Using the following headings, indicate the effect of each error and the amount of the effect (i.e. the difference between the entry that was or was not made and the entry that should have been made). Use O if the effect overstates the item, U if the effect understates the item, and NE if there is no effect.

	Balance sheet			Income statement		
Transaction	**Assets**	**Liabilities**	**Shareholders' equity**	**Revenues**	**Expenses**	**Net profit**
a						
b						
c						
d						
e						

2 For each error, prepare the adjusting journal entry:
   a that was made (if any)
   b that should have been made at year-end.

PROBLEM 5.18

Adjusting journal entries

Jindabine Trust Ltd cleans trucks for customers. It is completing the account process for the year just ended 30 June 2019. The transactions during 2019 have been posted to the ledger accounts. The following data with respect to adjusting entries are available:

1. Jindabine cleaned three trucks for customers at the end of June, but did not record the service for $2700.
2. On 1 May 2019, Jindabine paid $1200 to the local newspaper for an advertisement to run each Thursday for 12 weeks. All ads have been run except for three Thursdays in July to complete the 12-week contract.
3. Jindabine borrowed $250 000 at 12 per cent annual interest rate on 1 November 2019 to expand its storage facility. The loan requires Jindabine to pay the interest quarterly until the note is repaid in two years. Jindabine paid quarterly interest on 1 February and 1 May.
4. Jindabine received $4500 on 1 June 2019 to store and maintain a truck until 1 November 2019. Jindabine credited the full amount to Unearned revenue on 1 June.
5. Jindabine's new equipment cost $220 000; $22 000 was the estimated depreciation in 2019.
6. Supplies on hand at 1 July 2018 totalled $16 500. Supplies purchased debited to Supplies on hand during the year amounted to $46 000. The year-end count showed $12 400 of supplies on hand.
7. Wages earned by employees during June 2019, unpaid and unrecorded at 30 June 2019, amounted to $3800. The next pay date will be 5 July 2019.

Prepare the adjusting entries that should be recorded for Jindabine at 30 June 2019.

PROBLEM 5.19

Classifying balance sheet items

An adjusted trial balance at 31 December 2019 for a toy manufacturer is given below:

	Debit $	Credit $
Accounts receivable	295 000	
Accounts payable		120 000
Property, plant and equipment	1 000 000	
Accumulated depreciation		400 000
Income tax payable		40 000
Revenue received in advance		10 000
Prepaid expenses	20 000	
Accrued wages		25 000
Inventory	200 000	
Cash	60 000	
Accrued revenue	20 000	
Long-term debt		100 000
Share capital		700 000
Retained profits at 1 January 2019		150 000
Sales		800 000
Cost of goods sold	500 000	
Depreciation expense	20 000	
Other operating expenses	150 000	
Income tax expense	80 000	
	2 345 000	2 345 000

1 In the balance sheet, prepared at 31 December 2019:
   a What would be the balance of total current assets?
   b What would be the balance of total current liabilities?
   c What would be the balance of total noncurrent assets?
   d What would be the closing balance of retained profit?
2 What was the balance of the accumulated depreciation account at 31 December 2018, assuming no property, plant and equipment was disposed of during the year?

PROBLEM 5.20

Accounting cycle

Wan Chai Limited is a small wholesaler of electronic components located near Hong Kong's central business district. The firm has provided a year-end balance sheet at 30 June 2019 and a summary of all the transactions that occurred in the month of July 2019.

WAN CHAI LTD
BALANCE SHEET AS AT 30 JUNE 2019

	$
Current assets	
Cash	324 000
Accounts receivable	906 000
Inventory	1 332 000
Prepaid insurance	42 000
Prepaid rent	144 000
Total current assets	2 748 000
Noncurrent assets	
Buildings and equipment	3 240 000
Accumulated depreciation	(804 000)
Total noncurrent assets	2 436 000
Total assets	5 184 000
Current liabilities	
Accounts payable	1 620 000
Accrued wages	264 000
Unearned revenue	348 000
Total current liabilities	2 232 000
Noncurrent liabilities	
Loan	1 200 000
Total noncurrent liabilities	1 200 000
Shareholders' equity	
Share capital	1 420 000
Retained profits	332 000
Total shareholders' equity	1 752 000
Total liabilities and shareholders' equity	5 184 000

The transactions are as follows:

- a Paid wages outstanding at the end of June.
- b Made credit sales of $1 254 000. (The cost of those goods sold was $750 000.)
- c Paid $1 020 000 to accounts payable.
- d Purchased $480 000 inventory on credit.
- e Paid cash for an annual insurance premium of $504 000 (12-month policy commencing 1 August 2019).
- f Received $1 680 000 from debtors.
- g Made cash sales totalling $270 000. (The cost of those goods sold was $192 000.)
- h Interest on the loan is at 10 per cent per annum and will be paid in September.
- i The work related to unearned revenue was completed.
- j Paid wages expense of $186 000 for July. Wages owing at the end of July are $60 000.
- k Paid rent for August of $144 000. (Rent is payable monthly in advance, at $144 000 per month.)
- l Paid administrative expenses, incurred during the month, of $126 000.
- m Depreciation is calculated monthly at 20 per cent per annum for plant and equipment, based on cost.
- n Commissions are determined on the last day of the month at $13 200. They will be paid next month.
- o The company is owed $10 000 in interest from the bank at the end of July.

Using Wan Chai Limited's previous balance sheet as a starting point, prepare the following data for the month ending 31 July 2019:

1. Journal entries and ledger accounts.
2. Post-adjustment trial balance.
3. Balance sheet and Income statement.

PROBLEM 5.21

Recording adjusting entries and preparing a balance sheet and income statement

PRS Ltd has the following unadjusted trial balance at 31 December 2018.

Account titles	Debit $	Credit $
Cash	19 600	
Accounts receivable	7 000	
Supplies	1 300	
Prepaid insurance	900	
Equipment	27 000	
Accumulated depreciation		12 000
Other assets	5 100	
Accounts payable		7 500
Share capital		16 000
Retained profit		10 300
Service revenue		48 000
COGS	32 900	
	93 800	93 800

Data not yet recorded at 31 December 2018 include the following:

- a Depreciation expense for 2018 was $4000.
- b Insurance expired during 2018 was $450.
- c Wages earned by employees but not yet paid on 31 December 2018 was $1100.
- d The supplies count on 31 December 2018 reflected $800 remaining supplies on hand to be used in 2019.
- e Income tax expense was $2150.

Required:

1 Record the 2018 adjusting entries.
2 Prepare an income statement and a classified balance sheet for 2018 to include the effects of the preceding five transactions.
3 Prepare closing entries.

PROBLEM 5.22

Ten-column worksheet

Refer to the Scanlon example in the chapter. Complete a 10-column worksheet separating out transaction k onwards as adjusting entries.

PROBLEM 5.23

Comprehensive example including a multi-column worksheet

CANBERRA LTD
BALANCE SHEET AS AT 31 DECEMBER 2017

	$		$
Assets		**Liabilities**	
Current assets		**Current liabilities**	
Cash	21 000	Accounts payable	27 000
Accounts receivable	39 000	Unearned revenue	32 000
Inventory	40 000	**Total current liabilities**	59 000
Prepaid rent	11 000		
Total current assets	111 000	**Noncurrent liabilities**	
		Long-term debt	0
Noncurrent assets		**Total noncurrent liabilities**	0
Land	100 000	**Total liabilities**	59 000
Property and equipment	400 000	**Net assets**	562 000
Accumulated depreciation	(80 000)		
Intangible assets (net)	90 000	**Shareholders' equity**	
Total noncurrent assets	510 000	Share capital	520 000
		Retained profits	42 000
Total assets	621 000	**Total shareholders' equity**	562 000

The following transactions occurred for Canberra Limited in 2018:

a Issued share capital for $200 000 cash.
b Purchased $35 000 of inventory on credit.
c Paid $28 000 to accounts payable.
d Sold inventory costing $60 000 for $270 000. All sales are on credit.
e Collected $52 000 from customers.
f Prepaid $12 000 rent for the year commencing 1 January 2019.
g Depreciated property and equipment for the year using the straight-line method (20 per cent per annum).
h Dividends declared and paid totalled $30 000.
i Borrowed $100 000 on 1 July 2018. The loan is due on 30 June 2019 and carries a 10 per cent p.a. interest rate. Paid $4000 interest on this loan during 2018.

j On 1 November paid $24 000 for an insurance policy covering 1 November 2017 to 31 October 2018.
k Paid wages of $90 000; wages of $20 000 had been earned but not paid.
l Received interest of $5000 in cash from the bank.
On 31 December 2018:
m The unearned revenue account had a balance of $5000.
n Accrued interest revenue had a balance of $2000.

Required:
1. Prepare journal entries for the above transactions.
2. Prepare ledgers.
3. Prepare closing entries.
4. Prepare a 10-column worksheet.
5. Prepare an income statement and balance sheet for Canberra Limited for the year ended 31 December 2018.

PROBLEM 5.24

Accrual versus cash accounting

The balance sheet of ABC Ltd as at 31 December 2018 and the cash receipts and payments for the year ended 31 December 2019 are shown below.

ABC LTD
BALANCE SHEET AS AT 31 DECEMBER 2018

	$		$
Assets		**Liabilities**	
Cash	5 000	Accounts payable	10 000
Accounts receivable	10 000	Bank loan	80 000
Inventory	20 000	**Shareholders' equity**	
Plant and equipment	200 000	Share capital	200 000
Land	100 000	Retained profits	45 000
Total	335 000	**Total**	335 000

CASH RECEIPTS AND DISBURSEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

	$		$
Receipts		**Disbursements**	
Cash sales	150 000	Salaries	65 000
Total collected from accounts receivable	100 000	Repairs	2 000
		Rates and taxes	3 000
		Interest	6 000
		Total payments to accounts payable	130 000
		Insurance	8 000
	250 000		214 000

Additional information:

a As at 31 December 2019, the balance of accounts receivable was $25 000 and the balance of accounts payable was $15 000.

b Salaries are now paid monthly on the second of the month for the preceding month. Wages and salaries total $7000 for the month of December. This was paid on 2 January 2020.

c Plant and equipment is shown net of accumulated depreciation of $50 000. Depreciation expense for the year is calculated using the straight-line method at 10 per cent per annum.

d The bank loan accrues interest at a rate of 10 per cent per annum, payable on 30 March and 30 September. The loan was taken out on 31 December 2018.

e A physical stocktake, as at 31 December 2019, revealed that inventory costing $23 000 was on hand. Cost of goods sold for the year was calculated as $132 000.

f The insurance premium of $8000 provides cover for the year ended 30 September 2020.

Required:

1 Calculate the following:
   a total sales for the period
   b gross profit
   c salaries expense and accrued salaries
   d interest expense and accrued interest
   e insurance expense and prepaid insurance.

2 What was the profit/(loss) for the period?

3 Prepare the balance sheet as at 31 December 2019.

PROBLEM 5.25

Calculating accrual information from cash information

The following information has been extracted from the accounts of PQR Ltd.

PQR LTD
BALANCE SHEET AS AT 30 JUNE 2018

	$	$		$
Assets			**Liabilities and shareholders' equity**	
Cash		25 000	Accounts payable	19 000
Accounts receivable		14 000	Revenue received in advance	8 000
Inventory		32 000	Accrued interest	1 000
Plant and equipment	150 000		Loan	25 000
Accumulated depreciation	40 000	110 000	Share capital	80 000
			Retained profits	48 000
		181 000		181 000

CASH RECEIPTS FOR THE YEAR ENDED 30 JUNE 2019

	$
Cash sales	92 000
Receipts from accounts receivable	385 000
	477 000

CASH PAYMENTS FOR THE YEAR ENDED 30 JUNE 2019

	$
Payments for accounts payable	172 000
Repayment of loan ($25 000) and interest ($2000)	27 000
Administrative expenses	46 000
Dividend payment	31 000
	276 000

Additional information:

a Balances as at 30 June 2019:

Inventory	$20 000
Accounts receivable	$24 000

b Credit purchases of inventory totalled $176 000 for the year.

c The services relating to the revenue received in advance at 30 June 2018 were provided during the year.

d No additions or disposals of plant and equipment were made during the period. The depreciation rate is 20 per cent per annum. The straight-line method is used.

e Administrative expenses included a prepayment of $4000 for July 2019.

f Accrued interest on 30 June 2018 related to the loan which was repaid during the year. There is no accrued interest as at 30 June 2019.

Required:

1 Calculate total revenue for the year ended 30 June 2019.

2 List all expenses for the year (including dollar amounts).

3 Calculate the balance of cash as at 30 June 2019.

4 Provide a balance sheet as at 30 June 2019.

CASES

CASE 5A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in the appendix at the back of the book. All questions relate to the consolidated accounts.

1 Is there any indication of the following in the accounts:
   a prepayments?
   b unearned revenue?
   c accrued expenses?
   d accrued revenues?

2 Why would Woolworths Limited use 29 June 2017 (30 June 2016) rather than 30 June as the financial year-end?

3 What is the net book value for:
   a freehold land, warehouses, retail and other properties?
   b plant and equipment?

4 Give examples from Woolworths' financial statements to indicate that it uses accrual accounting.

5 What is the depreciation for the year on plant and equipment and what is the balance of accumulated depreciation at year-end for plant and equipment?

CASE 5B Accrual accounting adjustments

Below are extracts of the 2017 Telstra Limited Statement of Financial Position:

TELSTRA GROUP
STATEMENT OF FINANCIAL POSITION AS AT 30 JUNE

	Note	2017 $m	2016 $m
Current assets			
Cash and cash equivalents	2.6	938	3 550
Trade and other receivables	3.3	5 468	4 737
Inventories	3.4	893	557
Derivative financial assets	4.3	21	62
Current tax receivables		11	8
Prepayments		531	426
Total current assets		7 862	9 340
Current liabilities			
Trade and other payables	3.5	4 189	3 948
Employee benefits	5.1	865	913
Other provisions		190	92
Borrowings	4.3	2 476	2 655
Derivative financial liabilities	4.3	42	286
Current tax payables		161	176
Revenue received in advance		1 236	1 118
Total current liabilities		9 159	9 188

Telstra, *Annual Report 2017*, page 73.

State where you believe the following items would be included. If an item is listed under a different name, state what it is.

a Prepayments
b Accrued expenses
c Unearned revenue
d Accrued revenue

CASE 5C Accrual accounting adjustments

Go to the financial statements of JB Hi-Fi Limited and find where the following items are located (they will be on the balance sheet or in one of the notes related to the balance sheet):

1 Prepayments
2 Accrued expenses
3 Unearned revenue
4 Accrued revenue.

State where you found the items and the dollar amount of each. If an item is listed under a different name, state what it is.

HOW'S YOUR UNDERSTANDING SOLUTIONS

5A (i) increases expenses
(ii) decreases cash
(iii) decreases cash
(iv) decreases cash
(v) both
(vi) decreases cash.

5B \$108 000 (\$60 000 + \$40 000 + \$8000).

5C \$800 000 (\$200 000 + \$600 000).

5D \$33 000 asset in the balance sheet (11/12 × \$36 000).

5E (i) Cash sale
(ii) Receipt of payment by a company such as an airline with the service to be delivered in next financial year
(iii) Credit sale

5F They both result in an expense when assets are used up (e.g. equipment and inventory).

5G \$28 000 (\$4000 + \$30 000 − x = \$6000; x = \$28 000).

5H DR Cash
CR Unearned revenue

5I \$100 000 – \$20 000 = \$80 000.

5J Income statement: expenses would be understated and therefore profit overstated.
Balance sheet: liabilities would be understated and retained profits would be overstated (because profit was overstated).

5K Liabilities (probably current liabilities, assuming that the service will be carried out within a year).

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

	Adjust?	Journal entry		$	$
a	Y	DR	Accounts receivable	3 200	
		CR	Revenue		3 200
b	Y	DR	Cost of goods sold expense	1 900	
		CR	Inventory		1 900
c	Y	DR	Unearned revenue	3 900	
		CR	Revenue		3 900
d	Y	DR	Store building	62 320	
		CR	Maintenance expense		62 320
e	Y	DR	Audit expense	2 350	
		CR	Accounts payable		2 350
f	Y	DR	Automobile	17 220	
		CR	Accounts payable		17 220

PRACTICE PROBLEM B

1 Revenues:

	$
Sales	340 000

2 Expenses:

COGS	120 000
Interest (200 000 × 10%)	20 000
Wages (180 000 + 40 000)	220 000
Electricity	22 000
Insurance (24 000 × 9/12)	18 000

3 600 000 − 56 000 + 220 000 − 60 000 + 200 000 − 8000 − 180 000 + 80 000 − 24 000 = $772 000

PRACTICE PROBLEM C

1 18 000 (17 000 + 3000 − 2000)

2 8000

3 5000 (4500 + 3000 − 2500)

4 2000 (0 + 2000 − 0)

5 1000 (2000 ÷ 2)

COURSEMATE EXPRESS

WEBSITE RESOURCES

CourseMateExpress

Go to **http://login.cengagebrain.com** and use the access code that comes with this book for 12 months access to the resources and study tools for this chapter.

The CourseMate Express website contains:

- student revision quizzes
- glossary of key terms and flashcards
- and more!

6 Financial reporting principles, accounting standards and auditing

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 understand the accounting regulatory environment in Australia (6.1)
LO2 understand the importance of international accounting standards (6.2)
LO3 explain why financial accounting has authoritative standards and generally accepted accounting principles (GAAP) (6.3)
LO4 explain GAAP and its components (6.4)
LO5 define assets, liabilities and equity, and determine whether certain items meet these definitions (6.5)
LO6 determine when an asset or liability is to be recognised (6.5)
LO7 understand the alternative methods for valuation of assets and liabilities (6.6)
LO8 list the contents of Australian annual reports (6.7)
LO9 explain the nature and purpose of an audit (6.8)
LO10 describe the types of audit reports issued (6.8)
LO11 make judgements on the appropriate responses to certain ethical dilemmas (6.9)
LO12 describe the way in which capital markets operate and describe the role of financial accounting information in capital markets (6.10)
LO13 explain what is meant by an efficient capital market (6.10)
LO14 explain the implications for financial accounting for business contract arrangements (6.11) and for managers (6.12).

CHAPTER OVERVIEW

This is the last of the six chapters introducing the financial statements. It has few numbers. (Perhaps the break from numbers will help the previous material settle into your understanding!) Instead, this chapter focuses on the system of accounting regulation in Australia and internationally as well as the standards and principles that govern the way accountants assemble the numbers. We have seen that accrual accounting and even transaction recording require judgement and managerial decisions. Now we will delve into the concepts that guide accountants in undertaking accounting.

Both doing accounting and using accounting information require a solid conceptual understanding, in addition to being able to work with the numbers. Accounting information doesn't just appear; it follows accepted standards of preparation, format and disclosure, or should follow them. Accounting standards and principles are not just 'theory': they are a set of very practical guidelines that accountants and managers follow every day. This chapter is a foundation for succeeding chapters, which get into the specifics of doing accounting and making accounting choices, and use the principles from this chapter continuously. If you are going to be a user of accounting reports, it is not only important to understand the above but also to be aware of the broader content of an annual report, how to interpret an audit report, and how accounting numbers are used in capital markets and contractual arrangements.

6.1 Accounting regulation in Australia[1]

LO1 Earlier chapters have emphasised the importance of financial accounting information to various user groups. Credible financial reporting is hard to achieve without an accounting regulatory system. Effective regulation depends on the existence of accounting rules based on the appropriate concepts to guide information processing and disclosure. Also necessary is an enforcement mechanism that ensures sufficient compliance with the rules. The *Corporate Law Economic Reform Program Act 1999* (CLERP Act 1999), which came into effect on 1 January 2000, modified the institutional arrangements for the setting of accounting standards in Australia, recognising that financial reporting requirements can play an important role in Australian companies' ability to compete effectively and efficiently in a global environment.

The purpose of this section is to provide an overview of the Australian regulatory system as it relates to corporate financial reporting. Figure 6.1 depicts the main elements in the system.

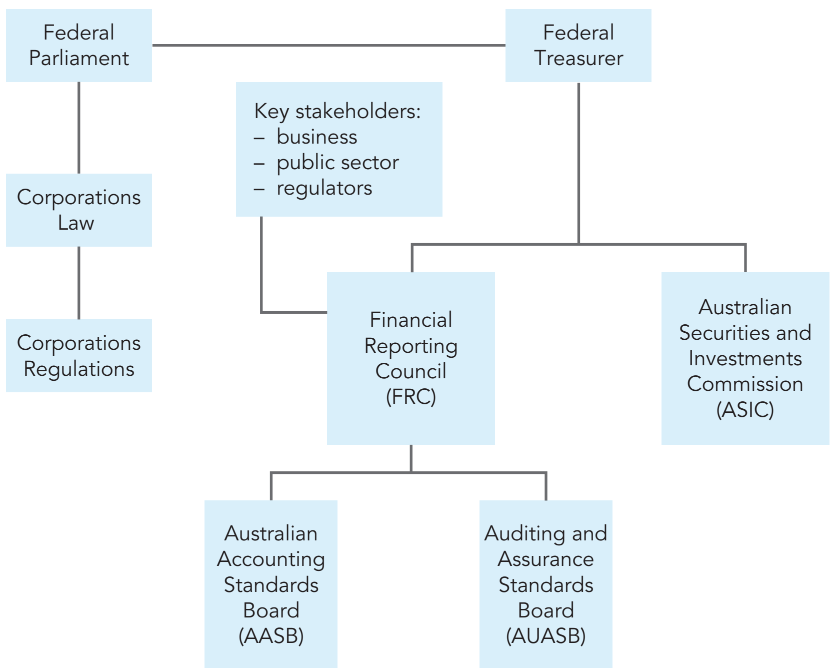

FIGURE 6.1 The regulatory framework

The government's role is highlighted in Figure 6.1. After an agreement with the states and the Northern Territory in 1990, the Federal Government took over the responsibility for companies and securities law in order to overcome the constitutional obstacles. The broad legal framework for corporate financial reporting is set out in the *Corporations Act 2001*, with subordinate detail contained in the Corporations Regulations 2001.

Also shown are two statutory bodies established by the *Australian Securities and Investments Commission Act 2001:* the Australian Securities and Investments Commission (ASIC) and the Financial Reporting Council (FRC). Both play an important role in the operation and oversight of financial reporting in Australia. ASIC is the agency charged with the administration and enforcement of the *Corporations Act 2001*, while the FRC is responsible for broadly overseeing the accounting and auditing standard-setting process in the private and public sectors.

The role of ASIC is to regulate and enforce laws that promote honesty and fairness in financial markets, products and services, and in Australian companies. In doing so, it underpins the strength, growth and international reputation of Australia's financial markets. As part of this role, it monitors compliance with accounting standards and takes appropriate enforcement action where necessary. ASIC's responsibilities include oversight of the audit function, including the registration of auditors and enforcing auditor

independence. In this latter role it operates an auditor inspection program of all the large audit firms and some of the smaller ones. Each year it publicly reports on the findings of this inspection process.

ASIC regulates Australian companies, financial markets, financial services organisations and professionals who deal and advise in investments, superannuation, insurance, deposit-taking and credit. Its roles include:

- the consumer credit regulator: ASIC licenses and regulates people and businesses engaging in consumer credit activities (including banks, credit unions, finance companies, and mortgage and finance brokers)
- the markets regulator: ASIC assesses how effectively authorised financial markets are complying with their legal obligations to operate fair, orderly and transparent markets. ASIC has responsibility for the supervision of trading on Australia's domestic licensed equity, derivatives and futures markets
- the financial services regulator: ASIC licenses and monitors financial services businesses to ensure that they operate efficiently, honestly and fairly; for example superannuation, managed funds, shares and company securities, derivatives and insurance.

Source: Adapted from Australian Securities and Investments Commission website, https://asic.gov.au/about-asic/what-we-do/our-role/

The other statutory body, the FRC, is an advisory council that sets the general strategic direction for the development of accounting standards. It reports to the Treasurer, who also appoints the members of the FRC. Members' appointments are based on nominations put forward by key stakeholder groups: representatives from the business community, the public sector, regulatory agencies and the professional accounting bodies. These groups all have an interest in the standard-setting process, and representation on the FRC allows them an opportunity to provide input to the process, resulting in greater ownership of the resulting standards. The FRC's membership, broadly based upon a variety of stakeholder groups, enables the accounting standard-setting process to be more responsive to the needs of the users and preparers of financial statements.

One of the key functions of the FRC is to oversee the operation of the Australian Accounting Standards Board (AASB). The AASB prepares, approves and issues accounting standards for the purposes of the *Corporations Act 2001*, and for the public and not-for-profit sectors. It comprises a full-time chairperson, appointed by the Treasurer, and nine part-time members. Members are appointed by the FRC, selected on the basis of their knowledge and experience in business, accounting, law or government. The FRC is also responsible for approving the priorities, business plan, budget and staffing arrangements of the AASB. However, it cannot influence the AASB's technical deliberations, and, therefore, the content of particular accounting standards.

The FRC also oversees the Auditing and Assurance Standards Board (AUASB). The AUASB is responsible for the development and maintenance of auditing and assurance standards. It consists of 10 members appointed by the FRC, with the chairperson appointed by the Treasurer.

In addition to this regulatory framework, accountants will belong to the accounting profession, represented in Australia by CPA Australia, Chartered Accountants Australia and New Zealand (CAANZ) and the Institute of Public Accountants (IPA). The Australian professional accounting bodies have established the Accounting Professional and Ethical Standards Board (APESB). This body issues standards to establish and monitor the independence and ethical behaviour of professional accountants. Of particular interest is APES 110 *Code of Ethics for Professional Accountants*, which is discussed in section 6.9 of this chapter.

Companies that are listed on the Australian Securities Exchange Limited (ASX) must comply with ASX listing rules if they wish to remain listed on the ASX. The listing rules may be enforced by the ASX's power of suspension or delisting. Moreover, the rules have statutory backing in the *Corporations Act 2001*, as a court order may be obtained to enforce them.

Corporate governance is an important aspect of ASX rules. The rules require a company to state whether it has an audit committee and, if it does not, to explain why not. In addition, companies are required to state, in their annual reports, the main corporate governance practices they had in place during the reporting period. To assist companies, an indicative list of corporate governance recommendations are not in the ASX Listing Rules themselves – they are published by the ASX-convened Corporate Governance Council, which brings together various business shareholder and industry groups. Under the ASX Listing Rules, ASX-listed entities

are required to benchmark their corporate governance practices against the Council's recommendations and, where they do not conform, to disclose that fact and the reasons why (see Exhibit 6.1).

EXHIBIT 6.1 THE ESSENTIAL CORPORATE GOVERNANCE PRINCIPLES

1. **Lay solid foundations for management and oversight:** A listed entity should establish and disclose the respective roles and responsibilities of its board and management and how their performance is monitored and evaluated.
2. **Structure the board to add value:** A listed entity should have a board of an appropriate size, composition, skills and commitment to enable it to discharge its duties effectively.
3. **Act ethically and responsibly:** A listed entity should act ethically and responsibly.
4. **Safeguard integrity in corporate reporting:** A listed entity should have formal and rigorous processes that independently verify and safeguard the integrity of its corporate reporting.
5. **Make timely and balanced disclosure:** A listed entity should make timely and balanced disclosure of all matters concerning it that a reasonable person would expect to have a material effect on the price or value of its securities.
6. **Respect the rights of security holders:** A listed entity should respect the rights of its security holders by providing them with appropriate information and facilities to allow them to exercise those rights effectively.
7. **Recognise and manage risk:** A listed entity should establish a sound risk management framework and periodically review the effectiveness of that framework.
8. **Remunerate fairly and responsibly:** A listed entity should pay director remuneration sufficient to attract and retain high quality directors and design its executive remuneration to attract, retain and motivate high quality senior executives and to align their interests with the creation of value for security holders.

6.2 International financial reporting standards

International accounting standards

LO2 As in business and economics generally, international issues have come to the fore in financial accounting. The growth in companies accessing debt and equity capital outside their national borders has substantially increased the need for a single set of high-quality, understandable, enforceable and globally accepted accounting standards. In 1973, the International Accounting Standards Board was established to develop a single set of international accounting standards. The benefit of establishing a single set of global accounting standards is that it enables capital providers to assess and compare intercompany performance in a much more meaningful, effective and efficient way than was possible when hundreds of countries set their own accounting standards. These international financial reporting standards (referred to as IFRSs) are now, along with US GAAP ('generally accepted accounting principles'), one of the two globally recognised financial reporting standards.

While the adoption of IFRSs in most major capital markets, except the United States, represents a considerable achievement for the IASB, there is still uncertainty about the adoption of IFRSs by the USA. Since 2001, the IASB and the US Financial Accounting Standards Board (FASB) have been actively working towards convergence of IFRSs and US GAAP. Convergence means that both financial reporting frameworks will be alike so that international trade, stock markets, transfers of funds and other international business could be assisted, or at least not impeded. Both boards have also acknowledged their commitment to developing high-quality, *compatible* accounting standards that can be used for both domestic and cross-border financial reporting. However, progress on key convergence projects has been described as mixed and has been slower than anticipated. Nevertheless, while the US Securities and Exchange Commission (SEC) continues to propose potential mechanisms that, if met, could lead to the use of IFRSs in the US

capital market, many prominent accountants suggest that it could be many more years before financial accounting standard-setting boards achieve their goal of a single global set of accounting standards.

6.3 The importance of accounting standards and principles

Below is a hypothetical from a court case about the importance of accounting standards. LO3 LO4

> Ladies and gentlemen of the jury, I put it to you that the defendants, Market Darling Inc.'s top managers on trial here, wilfully circumvented accounting standards in preparing the set of financial statements that are the heart of this lawsuit. When investors, ordinary Canadians like yourselves, bought Market Darling shares, they were putting their faith in the company as well as their savings, and part of that faith was that they would get honest information in the company's financial reports. That faith was destroyed by the company's self-serving accounting, and the evidence shows that such accounting also led to the collapse of the whole business and the loss of investors' money as well as their faith. I'll summarise the main parts of this sad story:
>
> - Market Darling began ten years ago with a solid business concept and good employees. But top managers, there at the defendants' table, wanted faster growth.
> - To fuel the rapid growth those managers wanted, the company needed large amounts of money, which it got from share issues and bank borrowing, and spent on increasingly grandiose and dubious investments and acquisitions of other companies.
> - To convince investors and lenders that it was doing well, and so keep their money coming in, the company had to show strong growth in earnings.
> - Top managers found accounting too conservative and cautious for their liking, so they started to find ways of reporting revenues that were not real and delaying expenses, and so produced artificially high earnings, retained earnings and assets like receivables and inventories.
> - The continuous and increasing demand for earnings growth became a treadmill. The company began making business deals and acquiring other companies because they made the accounting numbers look good, not because they made business sense. Trusting investors supported the company, and the share price rose more than tenfold in a few years.
> - Getting increasingly good accounting results became the whole goal. But it was a house of cards. The accounting was unfair, unreliable, unconventional, unconservative, and ultimately unbelievable. When investors realised this, they ran for cover, and the share price collapsed. Faithful investors lost their shirts, when the share price fell over 95 per cent in a few weeks and the company was forced into bankruptcy.
> - Ladies and gentlemen, this law suit is fundamentally about accounting standards and the company's failure to follow them. If the company had followed accepted accounting standards, instead of trying to get around them, it would not have gotten into this mess, investors would not have suffered the huge losses, and you would not be here thinking about accounting on this fine summer's day.

No doubt many of you reading this book will one day be 'top managers', but let's make sure you are not referred to as 'top managers, there at the defendants' table'.

6.4 Accounting principles and the use of accounting information

How do accountants decide what accounting is needed and then put their decisions into practice? This section outlines the conceptual background that guides accountants. Doing accounting takes expert knowledge, considerable experience and continuous attention to new problems and solutions. Concepts and LO4

principles are very important in accounting, because they form a logical structure that practising accountants use every day to consider problems, make or recommend decisions and explain solutions.

Applying accounting standards and principles depends on the particular accounting entity: the organisation for which the accounting is being done. The local coffee shop is just as appropriate an entity to be accounted for as are the groups of corporations making up Woolworths or Westpac, but decision criteria would imply different accounting needs for the coffee shop entity, the retailer or the bank, so generally accepted accounting principles would be applied differently for these entities. (More about this in the 'For your interest' box at the end of this section.)

Financial accounting has a surprisingly large set of concepts and principles to guide accountants in preparing financial statements, auditors in verifying them and users in interpreting them. A very large amount has been written about the conceptual and theoretical side of accounting and, as you saw earlier, several groups are involved in setting financial accounting standards and otherwise regulating accounting information.

All this material occupies many metres of library shelves and much space in computer databases. This section will give you a glimpse of the conceptual structure behind financial accounting by focusing on some concepts of particular value to the users of accounting information. These concepts have been deduced by accountants, researchers and standard-setters from logic and the observation of good practices, and they are used to guide everyone who prepares, audits, uses and studies financial accounting.

A phrase often used in relation to accounting's conceptual structure is 'generally accepted accounting principles' (GAAP). These are the rules, standards and usual practices that companies are expected to follow when preparing their financial statements. They are a combination of the authoritative standards and concept statements issued by accounting standard-setters – such as the Australian Accounting Standards Board (AASB) and the Financial Accounting Standards Board (FASB) in the United States – and the accepted ways of doing accounting that are not included in such standards. Year by year, the set of authoritative standards gets larger, but the world continues to increase in complexity, so the standards are never extensive enough to include everything. Perhaps they should not try to cover everything, because if they did, financial accounting would be bound by a boring, inflexible set of rules.

The development of GAAP can be traced back to the evolution of financial accounting, as well as to the efforts of standard-setting bodies that attempted to improve accounting principles and practices by increasing the authoritative, documented part of GAAP. Until the 20th century was well underway, authoritative accounting standards did not exist. The catalyst that produced increased financial disclosure and brought more rules governing it was the stock market crash of 1929. Poor financial reporting and disclosure were seen as contributing to the crash. It was argued that, had investors been better informed, they could have made sounder financial decisions, thus preventing the stock market collapse and its harmful economic and social consequences.

In Australia, the main GAAP consist of accounting standards and the conceptual framework. It all sounds a bit complex, but if we describe them one by one it should become clearer. Think of them as a package that together forms GAAP.

While, for many years, there were significant differences in accounting standards between countries, more recently the International Accounting Standards Board (IASB) issued a whole series of accounting standards. In Australia (and in many other countries), the local standard setter uses the IASB pronouncements as the 'foundation' pronouncements, to which it adds material detailing the scope and applicability of a pronouncement in the Australian environment. Additions are made, where necessary, to broaden the content to cover sectors not addressed by an IASB pronouncement, and domestic, regulatory or other issues.

General concepts and principles to be used in preparing and presenting financial statements are set out in the *Framework for the Preparation and Presentation of Financial Statements*. (This is cited in the Australian Accounting Standards and in this book as the Framework.) This Framework has important implications, so we now devote a complete section to its coverage.

FOR YOUR INTEREST

While we have GAAP, it is very important to consider the need to fit the accounting to the circumstances of the particular accounting entity. However, if you always changed everything to suit each organisation, there would be no standards left and no comparability to other organisations. If every course in the university used a unique grading system, you couldn't compare how you did in different courses, or compute a grade-point average. Here, very briefly, are three examples of accounting difficulties that face accountants and managers.

- The ABC, as well as channels Nine, Ten and Seven, have national TV networks in Australia. The ABC is publicly owned, largely financed by the government of Australia, and is not generally supposed to be trying to make a profit, while the three commercial channels are listed companies and are definitely trying to make a profit. Should all four use the same accounting methods, so that they may be compared, or does the ABC's public ownership and mandate mean that its accounting should be different? (The ABC's accounting was very different 15 years ago from that of a profit-making company, but its accounting has been getting less and less different over the years.)
- Because companies cannot 'own' their employees, all those great employees are not shown on the balance sheet of Qantas, BHP or UNSW Sydney. But what about a sports team like the Sydney Swans or Manchester United? These teams often pay millions of dollars for the right to have particular players play for them. How should the team account for such sums? Are they assets or expenses? If they are assets, how long do they last? Should they be amortised over the 'useful life' of the player concerned? That would be to treat the player rather like a machine or a building, but maybe, in an economic sense, that's what the player is. (The actual players are not on the balance sheets of some major sporting teams particularly in the United States, but the costs to get them are, and many teams indeed amortise such costs over the length of time the players are thought to be useful – an exceedingly difficult estimation to do, when an injury, for example, can render a star player pretty well useless long before age would be expected to do the same.)
- How do you figure out the profitability of a big film like one of the *Star Wars* series? Such a film should attract lots of people to the theatre soon after it comes out, but it will (or might) generate other revenues for years, such as downloads or DVD sales, TV screenings, product tie-ins and books. (This is one of accounting's hardest problems. There have been major lawsuits between people who are supposed to share profits from films and disagree about how such profits should be calculated, especially how to factor in such unknowns as future revenues.)

6.5 Framework for the preparation and presentation of financial statements

LO5 LO6

The Framework issued by the AASB sets out the concepts that underlie the preparation of financial reports for external users. The Framework includes coverage of:

- the objectives of financial reports
- the assumptions underlying financial reports
- the qualitative characteristics that determine the usefulness of financial reports
- the definition of the elements from which financial reports are constructed: assets, liabilities, equity, income and expenses
- recognition and measurement of the elements of financial statements.

Some of these items will sound familiar. For example, in Chapter 1 we discussed the basic qualitative characteristics that determine the usefulness of financial reports, and in Chapter 2 we introduced you to definitions of the key elements of the financial statements, including assets and liabilities. These concepts will be expanded on here before we take a more detailed look at the various balance sheet, income statement and cash flow elements in the later chapters.

The Framework makes a distinction between general purpose financial statements and special purpose financial statements. The Framework deals with general purpose financial statements (as does this book).

These general purpose financial statements are aimed at the common information needs of a wide range of users. These users generally have to rely on the financial report as their major source of financial information. Special purpose reports, such as prospectuses for the issue of shares, are outside the scope of the Framework.

In Chapter 1, you were introduced to the users of financial reports. These include: investors, employees, lenders, suppliers and other trade creditors, customers, governments and their agencies, and the public.

The Framework takes the view that investors, lenders and other creditors are the main users of the financial reports, as the objective of general purpose financial reports is to provide information to existing and potential investors, lenders and other creditors to allow them to make decisions about providing resources to the organisation (*Framework*, 2016, OB 2).

The Framework also recognises that the users of information about not-for-profit organisations may be different and their resource allocation decisions may differ. For example, they include donors, taxpayers, recipients of the services (e.g. the community) and parties providing an oversight role (e.g. Parliament).

The objective of financial reports

The objective of financial reports as outlined in the conceptual Framework is to provide information about the financial position, financial performance and cash flows that is useful to users (including existing and potential investors, lenders and other creditors) in making economic decisions.

These economic decisions, which will vary depending on the user, generally require an evaluation of the ability of the entity to generate cash in the future. Users are interested in the timing of that cash generation and the level of certainty; that is, how likely it is that the cash will be generated. This future cash generation is an important determinant of the ability of the entity to pay dividends to shareholders, wages to employees, interest to lenders and tax to the government. The Framework argues that decisions by potential users depend on the returns they expect (e.g. dividends, interest and capital gains/losses) and that expectations about returns depend on the assessments about the amount, timing and uncertainty of future cash flows.

To help predict future cash flows users need to know about:

- the economic resources (e.g. land and buildings, equipment and patents) that the entity controls
- the claims against the entity (e.g. amounts owing) and how effectively and efficiently management and the board have discharged their duties (*Framework*, 2016, OB 3 and 4).
- information about the nature and amounts of these resources and claims related to the financial position of the entity. This information helps users identify strengths and weaknesses, the entity's liquidity and solvency, and its need for additional finance and likelihood of attaining it.

In addition to knowing about the present level of resources and claims, users also need to know about changes in these amounts from both financial performance and other transactions such as borrowing money (e.g. bank loans) and issuing shares. Information on financial performance (as measured by calculating the profit from the organisation) is useful for a number of reasons:

- It helps users understand what return shareholders get on their equity (return on equity) which indicates how efficiently and effectively the organisation has used its resources.
- Information about the variability of this return and its components (discussed in detail in Chapter 15 under ratios) helps assess future cash flows (*Framework*, 2016, OB 15–16).

Elements of financial statements

The key elements of financial statements related to financial position are assets, liabilities and equity; those related to financial performance are income and expenses. These elements were introduced in earlier chapters, particularly Chapter 2. In earlier chapters we referred to revenues, which, as you will see below, are one of the sub-elements of income.

ASSETS

Assets are resources controlled by an entity as a result of past events, and from which future economic benefits are expected to flow to the entity.

Let's consider some aspects of the definition:

- The above definition specifies the essential features of an asset, but not the criteria that need to be met before assets are recognised in the balance sheet; that is, the definition includes items that may not be included in the balance sheet because of such factors as the reliability of the measurement. These criteria are discussed later in this section.
- 'Future economic benefits' refers to the asset's potential to contribute to the flow of cash (or cash equivalents) to the entity. This may be singly or in combination with other assets. It may include assets (such as equipment) producing goods or services that are sold; it may be the capacity to reduce cash outflows (alternative manufacturing processes that reduce the cost of production); it may be resources that are convertible to cash (such as receivables or inventory).
- While many assets have physical form (such as property, plant and equipment [PPE]), this is not essential, as for patents, trademarks and copyrights (usually called intangibles).
- While the right of ownership is common for many assets (such as receivables or property), it is not essential; for example, a lease of equipment can be an asset if the entity controls the benefits that are expected to flow to the entity.
- An asset must be as a result of a past transaction or other past events. This will normally be purchasing or producing the asset, but other examples could be the discovery of mineral or oil deposits, or property given by the government as part of a development plan.
- Control by the entity relates to the capacity of an entity to benefit from the asset in pursuing its objectives and to deny or regulate the access of others. The entity controlling the asset is the one that can exchange it, use it to provide goods or services, and charge others for its use. Although the ability to control the future economic benefits may be a result of legally enforceable rights, this is not an essential characteristic of an asset. For example, under a lease agreement, the owner (lessor) may transfer to the lessee control over the leased property for a certain period of time.

If the entity cannot deny others access to the benefits of the asset, these future economic benefits will not be controlled by the entity. For example, consider a property developer who builds a series of townhouses, and is required by the local council to put in road improvements or a public park as part of the project. If access to the road or the park is open to the general public without charge, then the developer does not have control over the asset.

ASSET RECOGNITION

A further question addressed by the Framework is the criteria that should be used to recognise assets. Recognition refers to the reporting of an item on the face of the financial statements. For assets, the relevant financial statement is the balance sheet.

The Framework states that an asset should be recognised when and only when:

- It is probable that any future economic benefits associated with the item will flow to the entity, and
- The item has a cost or value that can be measured with reliability.

The term 'probable' means that the chance of the future economic benefits arising is more likely rather than less likely. For example, a credit sale to a reputable customer still involves some probability that the amount will not be collected. However, if the likelihood of non-receipt is remote at reporting date, the amount owing to the entity would satisfy the criteria for recognition as an asset. For some expenditures, such as those on exploration, and research and development, the degree of certainty that the item will satisfy the criteria for recognition of an asset often does not exist.

For an asset to satisfy the recognition criteria, it is also necessary that it possess a cost or other value that can be measured reliably. In most cases, assets have a cost that can be reliably measured; for example, motor vehicles, inventory or equipment. An example where this is not the case is a mining company that may have discovered, at an immaterial cost, some evidence of minerals on its exploration site, but at the date of reporting does not know the extent of the minerals or their value.

FOR YOUR INTEREST

You may have heard CEOs say that their staff are their biggest asset. Yet you will have noted that staff are not listed on any balance sheet. One of the reasons is the difficulty of putting a value on staff. In the 1970s and 1980s, there was a lot of accounting research called human resource accounting, which examined this question. Some suggestions for valuing staff included:

- all costs spent on the staff member (such as the cost of training)
- the present value of the future cash the staff member will generate
- the cost of training a replacement.

LIABILITIES

A liability is a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.

Again, we should consider some of the content of this definition from the Framework:

- As with assets, this definition identifies essential features, but does not specify criteria for including the liability on the balance sheet (this is covered below).
- Past transactions would include the acquiring of goods and services (accounts payable), employees performing work (wages payable or provision of employee entitlements), the use of money from the bank (interest payable), receipt of a bank loan (bank loan), sale of goods (provision for warranty) and receipt of cash in advance of providing a service (revenue received in advance).
- The existence of a liability depends on the present obligation being such that the legal, social, political or economic consequences of failing to honour the obligation leave the entity little, if any, discretion to avoid the future sacrifice of economic benefits to another entity. For example, an entity placing an order for the purchase of goods would not normally give rise to a liability, since the entity would normally have the discretion to avoid the future sacrifice of economic benefits by being able to cancel the order. The receipt of the goods would normally be the event that would create the liability. However, if the goods were to be made to the specifications of the purchaser, it might not be possible to cancel the order after the supplier commenced manufacture of the goods, without significant penalties. In these circumstances, a liability would exist when the supplier commenced manufacture of the goods.
- Settlement of a present obligation can occur via:
  - payment of cash
  - transfer of other assets (e.g. a company has received a deposit on a piece of equipment it is providing; it later transfers that equipment to the person who paid the deposit)
  - provision of services, where amounts have been received in advance of services being provided (as when there has been a receipt of cash for a future airline flight), the liability is later removed by providing the service (i.e. providing the flight for the passenger)
  - replacement of an obligation with another obligation (e.g. accrued expenses may later become accounts payable when the company receives an invoice from the supplier)
  - conversion of the obligation to equity (e.g. issuing shares to a company to extinguish a debt).

LIABILITY RECOGNITION

There are two essential criteria for the recognition of a liability:

- It is probable that any future sacrifice of economic benefits associated with the item will flow to or from the entity, and
- The item has a cost or value that can be measured reliably.

The term 'probable' means that the chance of the future sacrifice of economic benefits being required is more likely rather than less likely. This probability can range from virtual certainty to highly unlikely.

An example of virtual certainty would be that wages during the month of June are due to be paid on 1 July. An example of it being highly unlikely would be that the company has guaranteed a loan from the bank to a highly profitable subsidiary; the future sacrifice of economic benefits would only occur if the subsidiary defaulted on the loan. While the first example would meet the criteria for recognition of a liability, the second example would not.

The second essential criterion is that the amount of the liability can be reliably estimated. Verifiable evidence of the amounts to be paid and the dates of payment are available for many liabilities (such as payments to creditors and repayments of loans). However, some probable future sacrifices of economic benefits, such as lawsuits, cannot be reliably estimated, and therefore are not included as a liability at this point in time. In between the above examples are future sacrifices related to future warranty expenses on products already sold. These can normally be estimated reliably based on previous experience with the products. Similarly, estimates of employee entitlements can usually be estimated on the basis of past history and actuarial estimates.

EQUITY

Equity is defined in the Framework as the residual interest in the assets of the entity after deduction of its liabilities; that is, the difference between the amounts assigned to its assets and liabilities represents an element of the balance sheet that is referred to as equity (i.e. A = L + SE; SE = A – L). Other names by which equity is sometimes known include owners' equity, shareholders' equity and shareholders' funds.

In the Framework, the approach taken of defining equity as a residual is based on the view that equity cannot be defined independently of the other elements comprising the balance sheet. Accordingly, the concepts of assets and liabilities must be defined before a definition of equity can be made operational.

Equity ranks after liabilities as a claim to the assets of an entity. In the event of the entity being wound up, all liabilities must be met before a distribution can be made to the entity's owners. This characteristic implies that equity is a residual interest – it is the claim to the net assets of the entity; that is, to the assets after liabilities have been deducted.

INCOME

Income is defined in the Framework as 'increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases in liabilities that result in increases in equity, other than relating to contributions from equity participants'. This tells you that such things as the issue of shares would not be included.

The above definition of income has two components: revenue (which we have discussed in earlier chapters) and gains. Revenue arises in the course of ordinary activities of the entity, such as sales, fees, interest, rent, royalties and commissions. Gains refer to other items that meet the definition of income. Gains include the sale of a noncurrent asset above book value (cost minus accumulated depreciation). Gains are normally reported separately in the income statement.

The recognition of income occurs simultaneously with the recognition of increases in assets (such as an increase in assets from the sale of goods or services) and decreases in liabilities (such as a decrease in liabilities because another party has waived a debt payable). The future economic benefit related to the increase in asset or decrease in liability must be reliably measured.

In earlier chapters we noted that the specific recognition of revenue occurred when the goods or services were provided. Policies such as this are aimed at restricting the recognition of revenue to those items that can be measured reliably.

EXPENSES

Under the Framework, expenses are defined as decreases in economic benefits during the accounting period in the form of outflows of assets (such as cash paid for wages), depletions of assets (such as depreciation of equipment or expiration of prepayments) or incurrences of liabilities (such as increase in provision for employee entitlements) that result in decreases in equity (retained profits decrease), other than those resulting in distributions to equity holders (dividends are not expenses).

This definition of expenses includes expenses that arise in the ordinary course of the business as well as losses. Examples of the former include cost of goods sold (COGS), wages and depreciation. They usually take the form of depletion in assets such as cash (wages), inventory (COGS) or PPE (depreciation).

Losses include those resulting from disasters, such as fire or flood, and from the disposal of assets where the asset is sold for less than its book value (cost minus accumulated depreciation).

Expenses are recognised in the income statement when there is a decrease in future economic benefits related to either a decrease in asset (such as depreciation of equipment or cash paid for wages) or an increase in a liability (increase in electricity payable or an increase in the provision for employee entitlements) that can be reliably measured. The recognition of the expense occurs at the same time – the other side of the double-entry system – with the recognition of the decrease in asset or increase in liability.

Matching involves trying to line up measures of economic inflows with outflows. It involves the simultaneous recognition of revenues with related expenses. For example, the recognition of cost of goods sold expense at the same time as the revenue from the sale (recall in earlier chapters DR COGS, CR Inventory, DR Accounts receivable and CR Sales revenue). Similarly, sales commission would be taken up in the same period as the sales revenue to which it relates.

Measurement of the elements of financial statements

The Framework describes measurement as the process of determining the monetary amounts that the elements of the financial statements are to be recognised at and included in the balance sheet (assets, liabilities and equity) and the income statement (income and expenses).

The Framework sets out a number of different measurement bases that are employed to different degrees, and in varying combinations, in financial reports. In paragraph 100 of the Framework the following are identified:

- *Historical cost:* Assets are recorded at the amount of cash or cash equivalents paid or the fair value of the consideration given to acquire them at the time of their acquisition. Liabilities are recorded at the amount of proceeds received in exchange for the obligation or, in some circumstances (e.g. income taxes), at the amounts of cash or cash equivalents expected to be paid to satisfy the liability in the normal course of business.
- *Current cost:* Assets are carried at the amount of cash or cash equivalents that would have to be paid if the same or an equivalent asset was acquired currently. Liabilities are carried at the undiscounted amount of cash or cash equivalents that would be required to settle the obligation currently.
- *Realisable (settlement) value:* Assets are carried at the amount of cash or cash equivalents that could currently be obtained by selling the asset in an orderly disposal. Liabilities are carried at their settlement values; that is, the undiscounted amounts of cash or cash equivalents expected to be paid to satisfy the liabilities in the normal course of business.
- *Present value:* Assets are carried at the present discounted value of the future net cash inflows that the item is expected to generate in the normal course of business. Liabilities are carried at the present discounted value of the future net cash outflows that are expected to be required to settle the liabilities in the normal course of business.

6.6 Assets and liabilities: valuation and measurement

LO7 When we look at financial information, what do the numbers (the numeric values assigned to assets and liabilities) mean? The asset valuation question is both complex and controversial. You may intuitively think that the assets should be valued at what they are worth, but what does that mean? There are five basic methods often suggested for measuring (valuing) assets and liabilities:

- historical cost
- price-level-adjusted historical cost

- current or market value (value in exchange)
- value in use (or present value)
- liquidation value.

As you read the description below of each measurement and valuation method, think about which one you believe is appropriate, and in which circumstances. There is a lot of variety and personal judgement within generally accepted accounting principles, so no one method, even the main one (historical cost), is considered to be the best in all circumstances.

Asset and liability valuation is often controversial, partly because of a concern that the values should be useful in people's decision-making and a suspicion that historical cost values are not as useful as those that look more to the future. Would you drive your car looking only in the rear-view mirror to see where you have been, and not looking out the front window to see where you are going? One worry is that historical cost valuation, the most common method, positions financial statements too much in the past, when there are equally important needs to recognise changes in market conditions and to predict the future when making decisions.

Two controversies will serve as examples. For asset valuation, one issue is whether market values may actually be better than historical cost, at least in some cases, such as for the financial and monetary assets of banks and similar financial institutions. For liability valuation, an issue is whether obligations due well into the future, such as warranty obligations, should be valued at the 'present value' of the likely future payments (future cash flows minus interest lost by waiting for the money), rather than just at the estimated future cash outflow itself, as is done now.

Now let's turn to the five valuation methods.

Historical cost

Historical cost, otherwise known as acquisition cost, values assets at the amount paid or promised to acquire the assets, and values liabilities at the amounts of any associated promises. These amounts can generally be found by referring to transactional evidence, such as invoices, receipts or contracts. The ability to document the cost of the asset is a major reason why historical cost is the usual valuation method for most assets and liabilities. Another principal reason is that an organisation will rarely purchase assets or make promises for their purchase for more than the organisation believes them to be worth. If you believe that an asset will provide you with $10 000 worth of productive capacity, you will not rationally pay or promise more than $10 000 for it. Under this method, an asset valued at historical cost is valued at its expected lowest or most conservative value of future benefits at the date of acquisition.

In most cases, GAAP imply the use of historical costs, unless some other valuation basis is more appropriate and is specifically disclosed in the financial statements. For example, note 1 of BHP Billiton Plc's 2017 financial statements states: 'entity accounts are prepared … using the historical cost convention, [which has] been applied on a consistent basis with the year ended 30 June 2016'.

Some additional points in connection with this method are worth noting:

- At the point of acquisition, historical cost = market value = value in use (present value), in most cases. We assume that rational people would only pay what the asset is worth to them in the future in their business, and that, in general, such use valuation would therefore tend to determine the market value of the asset.
- Much of the criticism of historical cost has to do with time issues. If a piece of land was purchased 10 years ago for $50 000, this has little meaning today. Is the land worth $200 000 or $100? That is something you do not know with historical cost.
- If an asset's market value later falls below its original cost, the asset may be written down to the market value. This violation of strict historical cost accounting is very much part of generally accepted accounting principles. It is behind two important accounting phenomena: 'writing down' of unproductive assets and the 'lower of cost or market' rule used in valuing inventories and some other current assets. You will see more about these later in this book.

Concerns over how assets are valued using historical cost have led people to suggest alternative methods for valuing assets and liabilities on the balance sheet. Some of the more popular alternatives are shown below.

Price-level-adjusted historical cost

This approach, first proposed early in the 20th century, adjusts for changes in the value or purchasing power of the dollar (the measuring unit), rather than for changes in the values of particular assets. The historical cost values of the assets and liabilities are adjusted for changes in the value of the dollar (using economy-wide indices, such as the Consumer Price Index) since the assets were acquired or the liabilities were incurred. While this method has been used in the past by some companies and by some countries that had high inflation, it has not found much favour in Australia or North America. One reason for its lack of popularity is that if historical cost is unsatisfactory compared to current values, adjusting the cost for inflation still makes it unsatisfactory, only now less understandable.

Current or market value (value in exchange)

This approach records the individual assets and liabilities at their current particular market value. It focuses on the individual values of the asset and liability items, not on changes in the dollar itself, as price-level-adjusted accounting does. It assumes that value is market-determined and that profit should be measured using changes over time in market values. The argument is that if, for example, your house's market worth is greater today than yesterday, you have made money on it today, even if you have not sold it. If its market worth is less, you have lost money on it, even if you have not sold it. This method has been the subject of much writing and experimentation, and has some theoretical attraction. However, it does create difficulties and costs in estimating current values.

Current value accounting can use either input or output values, or a mixture of these.

- *Input market value*, or entry value, refers to the amount it would cost to bring the asset into the company if it were not currently in it. It is usually measured by estimating replacement cost, to purchase the asset again, or reproduction cost, to make the asset again. The same idea holds for the hypothetical re-borrowing of liabilities.
- *Output market value*, or exit value, is the amount an asset is worth if it were sold now (in other words, its net realisable value) or the amount that a liability could be paid off at now, usually measured by quoted prices, appraisals and similar estimates.
- *Fair value* is an alternative asset valuation method that you will see more and more often. It is very similar to market value, except it does not require a market value to exist. Fair value is the amount of the consideration that would be agreed upon in an arm's-length transaction between knowledgeable, willing parties who are under no compulsion to act. This is a hypothetical amount ('would be agreed'), but is supposed to represent a potential market transaction between two free agents, both knowledgeable and willing, and not related to each other ('arm's-length'). Fair value is being used increasingly internationally. Further reference to fair value is made in Chapter 10.

Value in use (present value)

This approach considers that value flows from the way the company will use the asset to generate future cash flows.

- *Value in use* is usually estimated by calculating the net present value of future cash inflows (the cash flows minus lost interest implied by waiting for the cash) expected to be generated by the asset, or cash outflows it will make unnecessary.
- *Present value* is the future cash flows minus lost future interest implied by waiting for the cash. For example, suppose you are getting $1 in a year. If you had the money now, you would be able to earn 10 per cent on it, but by waiting a year, you give up that interest. The present value of the $1 is the amount before the lost interest: the amount that would build up to $1 in a year at 10 per cent. That would be 91 cents. In a year, 91 cents at 10 per cent would earn 9 cents interest, bringing the total to the $1 you will get in a year. The present value (91 cents) is thus always smaller than the future cash payment ($1), which is said to be 'discounted' to a lower amount to remove the effects of future interest. Present value and discount factors are covered further in the appendix to Chapter 11.

For example, a machine might be valued according to the products that it will make and that will be sold. Modern theories of finance and management accounting presume that value in use, measured by the net present value, is an appropriate method for managerial decisions about asset acquisition and financing. Moreover, many people presume it underlies market values, but the approach has been little used in producing financial accounting numbers.

FOR YOUR INTEREST

The above discussion of fair value and value in use is particularly important for accountants in the present environment, as accounting standards require directors to ensure the carrying value of an asset (cost minus accumulated depreciation) does not exceed its recoverable amount. This reduction is called an impairment loss and is recognised in the income statement with the expenses. This is discussed in section 10.7 of Chapter 10. There you will learn that 'recoverable amount' refers to the higher of fair value less the cost to sell the asset and the asset's value in use. Therefore, if you are not sure what the terms 'fair value' and 'value in use' mean, go back and re-read the last few pages.

Liquidation value

Liquidation value is like output market value, but is used on a 'going out of business, sell it for what you can' basis. It is the value that the company's assets would bring upon being sold, and the value that liabilities would be paid off for, if the whole company went out of business. It is used when the company is not felt to be a going concern; that is, if its continued viability cannot be assumed.

Therefore, the reader of financial statements that have been prepared on the historical cost basis should be entitled to presume that the company in question is a going concern. This presumption is an important part of financial accounting, but every year it turns out to be wrong for some companies that unexpectedly fail. Such bad outcomes remind us that good judgement is required in selecting the valuation basis, as with other aspects of financial accounting. The judgement that a company is a going concern, and should therefore use historical cost accounting, will turn out to be wrong if the company fails. Conversely, a judgement that a company is not a going concern might be self-fulfilling: it might panic creditors and investors, and result in company failure.

An example: current market value as an alternative to historical cost

Let's look at a realistic and relevant example. In most countries, there are many companies that specialise in acquiring and developing real estate for office buildings, shopping centres, industrial plants, housing developments and many other uses. As you probably know, real estate values are highly variable, with frequent booms and busts. Let's consider two fictional real estate development companies operating in the Sydney market. They are called Oxbridge and Bramview:

- Oxbridge has undeveloped land, bought during a downturn in the Sydney real estate market, which cost \$5 million and has an estimated current market (output) value of \$8 million. The company's net profit has been about \$700 000 per year in the last few years.
- Bramview also has undeveloped land, comparable to Oxbridge's, except it was bought during an overheated period of the Sydney market at a cost of \$11 million. Its estimated current market value is also \$8 million, and the company's net profit has also been about \$700 000 per year.

The two pieces of land are about the same, but the companies' historical-cost-based balance sheets certainly do not look the same:

- Oxbridge: undeveloped land, at cost \$5 million
- Bramview: undeveloped land, at cost \$11 million.

Also, Oxbridge will show a higher ratio of net profit to total assets, indicating apparently stronger performance than Bramview, because its total assets will be lower than Bramview's. Now, we could argue that this is as it should be; that Bramview has not really done as well because, in hindsight, too much was paid for the land. But another argument is that, since the two pieces of land are comparable economic assets, net profit should be related to the economic value (such as the market value) of the assets, not to costs that depend on historical events rather than currently relevant economic conditions.

Let's consider the idea of changing both companies' asset valuations for the land to current market value. Using the concepts from earlier in this book, what might be some pros and cons of this idea?

Pros include the following:

- more relevant valuation for users in assessing the company's value
- more useful for comparing companies with similar economic assets
- fairer way of relating performance (income) to the economic value that managers are managing on behalf of owners
- more timely data than the 'obsolete' cost figures
- not costly to implement (unless real estate appraisers have to be paid)
- understandable to users who know something about real estate.

Cons include the following:

- less reliable numbers, because they are based on the estimated selling value of land that has not been sold
- less consistent balance sheet values, because real estate values tend to vary a great deal over time
- not transaction based, and therefore not easily verifiable
- can be costly if valuations need to be paid for
- no effect on cash flow directly or through income tax, because the land has not been sold, so there might be doubt that moving the financial statement numbers around in the absence of real economic effects would be very helpful to anyone.

You can probably add more pros and cons. We don't know the significance (materiality) of the land valuation issue to the companies' financial statements, or the income tax and other consequences of changing the accounting numbers. But you should see that the accounting concepts are useful in figuring out what the appropriate accounting procedure to use would be.

6.7 The annual report and financial statements

LO8 Financial reporting is important for many organisations. All incorporated companies, and most other legally constituted organisations, are required to prepare a set of financial statements, at least annually, that explains their financial performance and position. Listed companies, which are those whose shares are traded on a stock exchange, issue half-yearly financial information. Most sole traders and partnerships also prepare annual financial statements, at their bankers' request or for inclusion with the proprietor's or partners' income tax returns, even if there are no other reasons for doing so.

Accounting standards require a complete set of financial statements, with five components:

- a statement of financial position at the end of the period (commonly referred to as a balance sheet)
- a statement of profit or loss and other comprehensive income for the period (commonly referred to as an income statement)
- a statement of changes in equity for the period
- a statement of cash flows for the period
- notes to the financial statements, comprising a summary of significant accounting policies and other explanatory information.

Note that accounting standards now use the term 'a statement of profit and loss and other comprehensive income for the period', but state that other titles can be used. For example, 'income statement' and 'statement of comprehensive income' are commonly used by many companies.

Balance sheets have been discussed in earlier chapters. The profit and loss component of the income statement was discussed in earlier chapters, and other comprehensive income will be discussed in Chapter 13. The statement of cash flows was introduced in Chapter 1. Recall that the statement of cash flows depicts cash inflows and cash outflows under three categories: operating, investing and financing. These categories will be covered in more detail in Chapter 14. The statement of changes in equity reports changes in equity due to profit or loss, other comprehensive income (which will be referred to in Chapter 13) and transactions with owners related to the issue of shares and dividends. Finally, notes to the financial statements provide additional detail on the items in the financial statements. Note 1 to the financial report describes the entity's accounting policies (such as depreciation methods, what is included in the costs of assets, and how provisions for employee entitlements are calculated). Subsequent notes provide more details on specific items in the financial statements; for example, there will be a note on revenues, expenses, receivables, inventory and PPE, and for each there will be a breakdown of the content shown on the face of the income statement and the balance sheet.

Public companies and other organisations include their set of financial statements in a much larger annual report. This report usually contains:

1. summary data on the company's performance for the year – usually in a graphical or other easy-to-read form – and comparisons going back five or more years
2. a letter to the company's shareholders from the chairperson of the board of directors; it often includes highlights of the performance for the year and plans for the future
3. an often-extensive chief executive officer's report, including a description of the economic, financial and other factors behind the company's business, usually broken down by its main products or departments
4. for listed companies, a corporate governance statement, which is required under ASX regulations; this would include such items as the composition and membership of the board of directors, the remuneration policy for directors, the availability of independent professional advice to directors, the composition of the audit committee, procedures for identifying and managing business risks, and a statement of ethical standards
5. the set of financial statements, containing the statement of financial position (the balance sheet), the statement of profit and loss and other comprehensive income (the income statement), the statement of changes in equity, the statement of cash flows and notes to the accounts
6. a directors' statement, required by the *Corporations Act 2001*, which includes a statement by the directors that they have been given a written and signed declaration by the CEO (or managing director) and the chief financial officer (CFO) that the financial records of the listed entity for the financial year have been properly maintained in accordance with the *Corporations Act 2001*, that the financial statements and notes to the accounts comply with the accounting standards, that the financial statements and notes to the accounts present a true and fair view, and any other matter prescribed by regulations; the directors also provide an opinion on whether the company can pay its debts as and when they fall due
7. an independent audit report: the auditor's report on the truth and fairness of the set of financial statements and the key audit matters identified by the auditor during the course of the audit; the contents of the statements and their notes are the responsibility of management, and the auditor's report consists of the auditor's opinion about those statements and notes (you should be sceptical of financial statements that have not been audited or those whose audit report is not attached); the auditor's report is discussed in section 6.8
8. a directors' report, which includes such items as the names of the directors, the principal activities of the company, the operating results, significant changes in the state of affairs of the company, certain information on directors, a report on director and executive remuneration, a declaration by the directors that they have received a declaration by the CEO/CFO about the entity's financial records and financial statements, and information about the entity's operations, financial position and business strategies and prospects for future financial years
9. for listed companies, information on substantial shareholders, the distribution of ownership of shares, the 20 largest shareholders and the voting rights of shareholders

10 sustainability reporting: reports on sustainability performance including environmental factors (e.g. energy usage, carbon emissions and water usage), safety (products and workers), community (contributions and effect), labour policies etc.; sometimes there will be separate reports and sometimes they will be included in the annual report, or sometimes in both (in Chapter 17 we discuss sustainability in more detail).

11 other voluntary information:
- graphs and other pictorial supplements
- details about such matters as products, business policies and business objectives
- lists of senior managers and various policies, including training and safety, and human resource management.

If you have not seen an annual report, you might find it interesting to browse through one. Most public companies have their most recent annual reports (as well as some more current financial information) on their website. In the appendix of this book, the 2017 financial statements and notes of Woolworths Limited can be found, plus the auditor's report and the directors' declaration.

Full versus concise financial reports

Traditionally, in Australia, all of the above information was contained in one set of financial statements. The *Corporations Act 2001* now requires the publication of both full general purpose financial reports (GPFR) and concise financial reports.

The full set of financial statements contains a balance sheet, an income statement, a statement of change in equity and a statement of cash flows. In addition, it contains all of the notes to the financial statements, the auditor's report and the directors' declaration. It may also contain various other pieces of information the company decides to include. Shareholders can elect to receive this report.

The concise financial statements are sent to all shareholders, with a statement that the report is a concise report and that the GPFR will be sent to the shareholder if requested. The content of the concise report is drawn up in accordance with the relevant accounting standards, and all disclosures must be derived from the GPFR. While there are minimum content requirements, there is scope for additional content, which will vary with regard to the particular circumstances of the organisation and the expected needs of the users.

The concise financial statements include a balance sheet, an income statement, a statement of change in equity and a statement of cash flows, as these must be presented, as in GPFR. In addition, there must be a discussion and analysis of these financial statements to assist the user's understanding.

Examples of the discussion and analysis include:

Statement	Examples of discussion and analysis
Income statement	• Trends in revenue • The effects of significant economic events, or other events, on the operations of the entity • The main influences on the cost of operations • Measures of financial performance
Balance sheet	• Changes in the composition of assets • Significant movements in account balances • The relationship between debt and equity
Statement of changes in equity	• Changes in the composition of share capital due to share buybacks, share dividends and share issuances • Trends in dividends paid to equity holders • The effects of changes in accounting policies • Significant changes in retained profits
Statement of cash flows	• Changes in cash flows from operations • Financing of capital expenditure programs • Servicing and repayment of borrowing

In addition, there will be a variety of other disclosures, including segment information (separate disclosures of revenues, profits and assets for the main segment of the business).

6.8 The external auditor's report[2]

LO9 LO10

Several references to auditors were made above. The auditor's report is normally a routine statement by the auditors that provides an opinion on whether the financial statements present a true and fair view and are in accordance with accounting standards. However, if it is not routine, the auditors are trying to tell the users something they think is important. The auditor's report may be qualified in some way, indicating that the auditors have some concern about the statements. In extreme cases, the report may even 'deny' the fairness of the statements, saying that the auditors have some very serious objections. This is called an adverse opinion. We discuss the various types of audit reports below.

While you have probably heard of the term 'audit', it will help to be aware of the broader term of 'assurance'. Assurance is an expression of a conclusion on particular subject matter or information (e.g. financial statements or levels of greenhouse gas emissions) that is intended to increase the confidence of the users of that information.

Figure 6.2 illustrates different levels of assurance. As you can see, an audit of financial statements is a reasonable assurance engagement. The auditor provides an opinion on whether the financial statements provide a true and fair view and whether they are in accordance with accounting standards. The fact that an audit provides a reasonable level of assurance rather than absolute assurance means that the auditor is not guaranteeing the financial statements are correct. This is the case because, as you have already discovered, there are numerous estimates and judgements in the financial reports, and some accounting numbers are contingent on future events (e.g. whether inventory can be sold, and whether accounts receivable can be collected). In addition, it is impractical for an auditor to test every transaction. For example, consider how many transactions per year companies like Woolworths and the Commonwealth Bank would have.

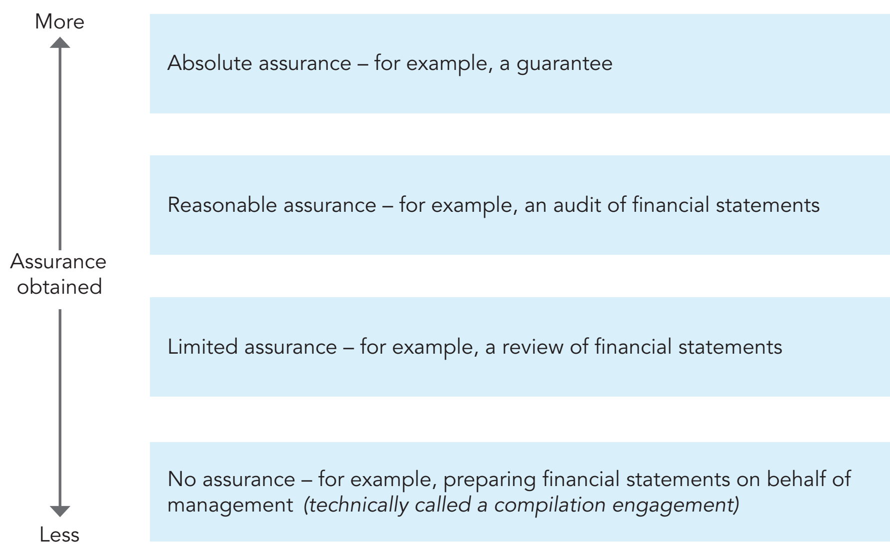

FIGURE 6.2 Levels of assurance

CPA Australia, *A Guide to Understanding Auditing and Assurance: Listed Companies*, 2014.

So *external auditing* refers to the evaluation of an organisation's financial statements by an auditor who should be independent of the management of the organisation. The role of the external auditor has two fundamental parts:

- to have an independent, unbiased and professional perspective
- to render a competent opinion on whether the financial statements present a true and fair view.

Let's begin with independence. Management prepares the financial statements and the auditor provides an opinion on those financial statements. The auditor needs to be independent from management. Auditors are members of professional associations, such as CPA Australia or Chartered Accountants Australia and New Zealand. Overseas equivalents include the American Institute of Certified Public Accountants, the Canadian Institute of Chartered Accountants, the Institute of Chartered Accountants of England and Wales, the Hong Kong Society of Accountants, the Institute of Chartered Accountants of New Zealand, the Institute of Certified Public Accountants of Singapore and the Malaysian Institute of Accountants.

A fundamental objective of these professional associations is to protect society by ensuring the professionalism and independence of the external auditors who belong to them. Protecting society should be consistent with protecting the professional reputations of the association's members. To this end, there are complex rules of professional ethics that prohibit the external auditor from having a financial interest – directly and in most indirect ways as well – in the client companies or other organisations being audited. These rules, and similar ones related to other relationships between the auditor and the client, are intended to ensure that the auditor has no personal interest in whether the financial statements report one kind of performance or another. In other words, the auditor should be an unbiased, professionally sceptical reviewer of the financial statements and not someone who wants the result to turn out one way or another.

Maintaining this independence is not easy, because the auditors are business entrepreneurs themselves and their clients pay them for doing the audit. The idea is that independence is maintained because the auditor is appointed by, and reports to, the shareholders, not management. Since the financial statements are reports on management's stewardship performance, the auditor is presumed to be working for the shareholders in verifying management's reports. In practice, however, external auditors must have a close working relationship with their client's management personnel in order to obtain the necessary information to carry out the audit.

Legislative changes overseas and in Australia (such as the *Sarbanes–Oxley Act 2002* in the United States and CLERP 9 in Australia) have strengthened the independence of audit firms by such requirements as (a) the rotation of audit partners every five years; and (b) banning the provision of many non-audit services (such as consulting) by the firm carrying out the audit. In addition, the large audit firms have spent millions of dollars improving quality controls over independence and the audit process.

The second part of the auditor's role is to render a competent opinion on the financial statements. If you refer to an audit report, such as that for Woolworths Limited in the appendix of this book, you will see that it says the auditors have reached an opinion as to whether the financial statements have been properly drawn up to give a true and fair view in accordance with the provisions of the *Corporations Act 2001* and applicable accounting standards. As noted above, it is an opinion, not a guarantee; nor does it say that the company has performed well or badly. It simply says that the performance and the position have been measured and presented in a generally accepted and unbiased way. Since December 2016, auditors are also required to include in their auditor report the key audit matters which have come to the attention of the auditors during the course of the audit.

Given the complexity of accounting, auditing and business in general, the auditor's opinion is fundamentally a professional judgement. The auditor not only must be competent, but also must weigh all sorts of factors in arriving at his/her opinion. Auditing firms in North America have sponsored a great deal of research into the professional judgement of auditors. The results of much of this research have been incorporated into international practices, including those in Australia.

The form and content of the auditor's report changes every few years as auditors rethink how best to communicate with the users of financial statements. Because the auditors are formally reporting to the shareholders of the company, not to management, the report is usually specifically addressed to the shareholders (the owners). The usual title of the report is 'Independent auditor's report'. Typically an audit report would:

1. identify the company, the set of statements and their date, and state that the statements are the responsibility of management
2. state that the directors are responsible for preparing the financial statements and for the internal controls (see Chapter 7) of the company

3 include a statement that the auditors are responsible for auditing the financial statements and that the audit involves performing procedures to obtain evidence about the amounts and disclosures in the financial report; and also that the evidence obtained is sufficient and appropriate to provide a basis for the audit opinion
4 include a statement by the auditor confirming that they have met the required independence standards
5 include the matters that in the auditor's judgement were of the most significance in the audit (key audit matters)
6 present the auditor's opinion that the financial statements give a true and fair view, and that they are in accordance with the provisions of the *Corporations Act 2001* and accounting standards.

Whilst previously you could have expected most auditors' reports to be worded pretty much the same, the introduction of key audit matters has introduced new information to the auditor's report and provides additional insights into the audit process which may be useful to anyone planning to use the financial statements in decision-making.

The auditor's report contains the auditor's opinion on the financial statements. The most common type of audit opinion is an unmodified opinion. An unmodified auditor's opinion indicates that the auditor believes the financial statements present a true and fair view and are in accordance with accounting standards and relevant legislation. Modified auditor's reports are issued when the auditor believes the financial statements contain a material misstatement, or when the auditor is unable to obtain enough evidence to form an opinion. The following table sets out the different types of modified auditor's reports that may be issued in these situations.

Type of modified audit opinion	Description	Situations where this type of report may be issued	Examples
Qualified or 'except for' opinion	The opinion states the financial statements present a true and fair view, and are in accordance with accounting standards except for the effect of a specific matter or matters. The issues are described in a separate paragraph within the report.	A qualified opinion is issued when a specific part of the financial statements contains a material misstatement or adequate evidence cannot be obtained in a specific, material area, and the rest of the financial statements are found to present a true and fair view, in accordance with accounting standards.	The auditor has a different view on the valuation of an asset from that applied by management in the financial statements, but the rest of the financial statements were found to be free of material misstatements.
Disclaimer of opinion	The auditor cannot reach an opinion overall on the financial statements and therefore disclaims any opinion on it.	A disclaimer of opinion is issued when the auditor cannot obtain adequate evidence to form an opinion on the financial statements overall.	The company's financial reporting information system is damaged and key data is lost, meaning adequate evidence is not available to support the disclosures in the financial statements.
Adverse opinion	The opinion states that the auditor believes the financial statements *do not* present a true and fair view, and are *not* in accordance with accounting standards.	An adverse opinion is issued when the auditor believes misstatements are so pervasive that the financial statements do not present a true and fair view, or are not in accordance with accounting standards.	The auditor believes that management has applied an inappropriate financial reporting framework in preparing the financial statements.

CPA Australia, *A Guide to Understanding Auditing and Assurance: Listed Companies*, 2014.

In certain limited circumstances, the auditor will issue an unqualified opinion, but will draw attention to or emphasise a matter that is relevant to the users of the audit report, but is not of such a nature that it affects the audit opinion. For example, there may be a major uncertainty that could affect the company's ability to remain a going concern, but this uncertainty is adequately disclosed by the company. It is a paragraph

normally after the standard opinion paragraph that highlights a matter affecting the financial report, which is included in a note to the financial statements that more extensively discusses it. The main idea is to alert the reader to the facts in this note.

HOW'S YOUR UNDERSTANDING?

6A i The general manager of a small company recently said: 'We need to have an external auditor for our financial statements so we can guarantee their accuracy to our bank.' Will that be the result if an auditor is appointed?

ii An auditor cannot obtain sufficient evidence as to the valuation of an asset. The rest of the financial statements are found to present a true and fair view in accordance with accounting standards. What type of audit report would be issued?

6.9 The nature of a profession and professional ethics

LO11 Many of the people involved in financial accounting consider themselves to be professionals. Evolving systems of standards, such as GAAP, work reasonably well, partly because professionals, who are both expert and ethical, are involved. Ethical behaviour comes from personal standards plus various written codes of ethical conduct.

For many people today, there is a strong concern with being professional. There are, however, certain occupations that have established status as 'the professions'. In today's world, some groups that have this status are physicians, lawyers, engineers, architects and professional accountants.

Part of the reason these groups stand out is that entry into each of them requires a post-secondary education, including training and examination by practitioners, and members are bound by a code of conduct or professional ethics. Members of each professional group usually enjoy a monopoly in their particular area of expertise. Associations of architects, physicians, engineers, lawyers and other members of legally recognised professions can all prevent people from calling themselves members of their particular professions and practising in that capacity. Such groups have to convince the public, as represented by governments, for example, that they have expertise and appropriate codes of ethical conduct, but also that entrance to their area of expertise should be regulated for the public good.

In Australia, Chartered Accountants Australia and New Zealand (CAANZ), CPA Australia (CPA) and the Institute of Public Accountants (IPA) are the professional accounting bodies. There are no legal requirements governing the employment of accountants in Australia, although some specialist accounting functions (such as auditing, taxation and liquidation) are subject to statutory requirements. However, professional designations, such as CA, CPA and IPA, are protected by law, and can only be attained if you meet the various requirements specified by the relevant accounting body. For these accountants, there are both powers and restrictions (e.g. advertising must meet certain standards of content and decorum).

The rights that a particular profession enjoys come in return for promises made concerning the quality and ethics of its members' work. If a professional accountant has not lived up to the standards of conduct held by the profession, he or she can be reprimanded or expelled by the profession and/or sued in court. (Anyone can be sued, of course, but professionals are usually held to a higher standard of performance than are non-professionals.)

All told, being in a profession has many advantages (including service to society, monopoly over an area of work, collegial support, social prestige and good pay), but one must remember that in return there is the social responsibility of discharging one's duties competently and in accordance with the profession's code of ethics. Professional codes of ethics involve not only behaving in a professional manner (i.e. with integrity and objectivity), but also maintaining the level of expertise required in order to perform skilfully. This involves following procedures that will, or should, ensure that high standards of work and performance are met, and exercising informed judgement.

For members of the professional accounting bodies there are ethical standards, including APES 110 *Code of Ethics for Professional Accountants*. This Code notes that the mark of the accounting profession is its acceptance of the responsibility to act in the public interest.

The Code sets out five fundamental principles, which are outlined below:

1. *Integrity:* an obligation on accountants to be straightforward and honest in professional and business relationships. This includes fair dealing and truthfulness.
2. *Objectivity:* an obligation on accountants not to compromise their professional or business judgement because of bias, conflict of interest or the undue influence of others.
3. *Professional competence and due care:* the principle of professional competence and due care, which imposes the following obligations on accountants:
   - to maintain professional knowledge and skill at the level required to ensure competent professional service
   - to act diligently in accordance with applicable technical and professional standards when providing their services.
4. *Confidentiality:* an obligation to refrain from:
   - disclosing confidential information acquired through business relationships without proper and specific authority from the client or employer
   - using confidential information acquired as a result of professional and business relationships to their advantage.
5. *Professional behaviour:* an obligation on accountants to comply with relevant laws and avoid actions that may discredit the accounting profession; for example, making disparaging references or unsubstantiated comparisons to the work of others.

Compliance with the fundamental principles may be affected by various threats, including the following:

- self-interest threats, such as a financial interest in the client, undue dependence on the total fees of a client, or a loan to or from a client
- self-review threats, such as auditing systems on reports in whose design or development you had been involved
- advocacy threats, such as promoting shares in a listed company when you are also auditor of that company
- familiarity threats, such as having a close or immediate family relationship with a director or officer of a client, or a long association with senior personnel of an audit client
- intimidation threats, such as being threatened with dismissal, or being pressured to reduce the extent of the work performed in order to reduce fees (adapted from *APES 110 Code of Ethics for Professional Accountants*).

Various safeguards to eliminate or reduce the threats to an acceptable level are developed by the profession, by legislation and in the work environment. For example, accounting firms involved in audit work have a vast range of rules related to their staff owning shares, and elaborate procedures to ensure that taking on a new client will not create independence problems; for example, taking on an audit when another part of the firm has developed the information system as part of a consulting role.

HOW'S YOUR UNDERSTANDING?

6B Here are examples of ethical problems that may be faced by professional accountants. What would you, as a member of a professional body or as someone who may rely on accounting information or auditors' reports, consider to be appropriate ethical behaviour in each case?

- **i** Mary works for a Big 4 accounting firm, and is part of the team doing the external audit of Westward Industries Ltd. Staff at Westward are all very friendly, and Mary is offered the chance to buy one of the company's high-quality sound systems for only about half the usual price. Should she accept the deal?
- **ii** Andrew is also on the Westward external audit team. He is a member of a local football team. During drinks after a game, he hears a member of another team boast of cheating Westward systematically by over-billing on printing invoices. Should he tell Westward?
- **iii** Lisa and Sean fall in love and decide to marry. Both are professional accountants: Lisa is the chief accountant of Westward, responsible for preparing all the company's financial statements, and Sean is a partner of a Big 4 firm and is in charge of the external audit of the company. Should Sean turn the audit over to another partner, or perhaps even ask the accounting firm to resign as auditor (because as a partner, he shares in the firm's profits from all audits)?
- **iv** Michelle is another member of the Westward external audit team. During some audit tests, she discovers that Westward engaged in some business activities that appear to be illegal. Breaking that particular law can bring large fines and even jail terms. Should Michelle go to the police?
- **v** Erin works for the same Big 4 firm. During the audit of Basic Electronics Ltd, she discovers that an employee of Basic is overcharging Westward by applying too high a mark-up to services contracted with Westward. Documents indicate that Basic's management is aware of this and is happy to be getting away with it, because it has a material effect on Basic's profit. Should she tell the management of Basic that she knows what they are doing? Should she tell Sean, the partner responsible for the Westward audit? Should she tell Westward?
- **vi** George is a partner of the same Big 4 firm. For years, his father has owned a few shares of Westward, among a whole portfolio of shares of many companies. His father has just died and willed all the shares to George. Should he sell the Westward shares?

6.10 Capital markets

Share markets and other markets for financial capital

LO12 LO13 As business corporations developed, ownership rights in them were sold more and more broadly. The owners (shareholders) began to invest in several businesses at once and to buy and sell their shares from and to each other. To facilitate the buying and selling (trading) of shares among investors, share markets – organised as stock exchanges – developed. Today there are many such exchanges, including the major international ones in New York, London, Tokyo, Paris and Toronto. The Australian Securities Exchange (ASX) is also a large equities market, and the largest in the Southern Hemisphere. Brokers, investment banks, market analysts and others conduct, assist in and advise on trading.

Trading goes on in more than just the shares of companies. For example, there is also the trading of rights (using terms such as 'warrant' or 'options') to buy or sell shares in the future, to convert from one kind of share to another, to receive dividends and to perform a wide variety of other future actions. New rights, and financial instruments to convey such rights, are being invented and traded all the time. Special markets have been developed for some of these, such as an options exchange in Chicago, but many are traded on regular stock exchanges, including the ASX. Corporate and government bonds are also traded, and there is such a variety of financial instruments that the distinction between ownership shares, creditorship bonds and

other rights and instruments is often blurred. For example, some bonds carry the right to be converted into shares at the option of the holder.

Many exchanges and over-the-counter markets use computerised trading systems for the listed companies whose shares and other securities (the usual general name for all these shares, bonds and other financial instruments) are traded on the exchanges and other markets. Furthermore, it is becoming increasingly common for investors to buy or sell securities anywhere in the world 24 hours a day. Taken together, all these exchanges, markets and buying and selling activities are usually called capital markets. They include both share trading and trading of all the other securities that corporations and governments use to finance their assets.

It is important to emphasise that these markets operate quite separately from the organisations that initially issue the securities. For example:

- When a company decides to issue some shares, these securities are offered to the market(s), and the company receives the proceeds of the initial sale of them (less commissions to brokers and others involved). After that, however, the company ceases to be a direct participant. Investors buy the securities from each other and sell them to each other with no participation from the company.
- Investors may even act in the face of opposition from the company; for example, an investor may try to get enough shares together to get voting control of the company (a takeover). There is always a risk for public companies (companies whose shares members of the public are able to buy or sell from each other without permission of the companies) that the markets will behave in ways companies do not like.
- The company may announce a new management team that it expects will improve the company's performance, but its share price may fall because the people buying and selling the shares do not like the new team, and more people want to sell their shares than want to buy them, producing a fall in the share price.
- The markets often create new securities out of the ones the company initially issued, then trade those. For example, a share may carry the right to buy another share in the future. That right may be bought and sold separately on the market, so that you could own the share without any such right, or the right without any such share.

To prepare you for financial accounting analysis, five particular aspects of capital markets are outlined in this section. These are:

- the way securities are traded and security prices are established
- the role of information (such as accounting reports) in such a market
- the idea of a 'risky return'
- the fact that markets are 'aggregates'
- the concept of 'market informational efficiency'.

These aspects, among many others, are dealt with in capital market theory. This theory is very down-to-earth, and incorporates much practical knowledge of how markets work. It has been a powerful impetus to economics, finance and accounting research, and to changes in the way capital markets are operated.

Security trading and security prices

Capital markets work in the same way as any market. People trade (buy and sell) what they own for something else, usually money or a promise of it.

- There are people who own securities, such as shares in BHP Billiton. Some of these are willing to sell their shares, if the price is right. If no one was willing to sell at any price, there would be no trading!
- There are people who don't own any securities, but who are willing to buy them, if the price is right. If no one was willing to buy at any price, there would be no trading! Let's call the first group the sellers and the second group the buyers.

Suppose we had the following list of possible prices of BHP shares:

Price	Sellers' willingness to sell	Buyers' willingness to buy
$19	Everyone would sell	No one would buy
$18	Most would sell	A few would buy
$17	Half would sell	Half would buy
$16	Some would sell	Most would buy
$15	None would sell	All would buy

You'll recognise from this hypothetical list of prices that we have a supply curve and a demand curve. Capital market prices are set by the interaction between those wanting to sell and those wanting to buy. At a price of $19, there would be lots of shares for sale but no buyers; at a price of $15, there would be lots of buyers but no sellers. Each day's market price for the shares is set by the balance between people willing to buy and people willing to sell:

- If there are more sellers than buyers, the price will fall, roughly down to the level at which there is an equal number of buyers and sellers (or at least, shares demanded and shares for sale).
- If there are more buyers than sellers, the price will rise, roughly up to the level at which there is an equal number of sellers and buyers (or shares for sale and shares demanded).

In the above example, we would expect the buyers and sellers to agree to trade (buy and sell) at a price of around $17. So if we looked up BHP Billiton's shares in the newspaper's listing of ASX prices, we would expect to see today's price to be about $17. But the daily price is set by the pressures of supply and demand, so it will vary, depending on how many buyers and sellers make offers to buy or sell. Therefore, it will vary around $17 as those pressures vary.

Role of information in a capital market

Why would the pressures of supply and demand vary? Broadly speaking, there are three kinds of reasons that are of interest in accounting analysis:

- *No information-based trading:* The circumstances of some buyers and sellers may require them to sell, or even buy, almost regardless of anything to do with the particular company whose shares are being traded. An owner of some shares may die and the estate may have to sell the shares in order to distribute the money to the beneficiaries of the owner's will, or an institutional investor, such as a superannuation fund, may need some cash to pay superannuation or other payments. A person may win a lottery and buy shares in a managed fund (an investment consisting of a sample of shares of many companies), so that the mutual fund in turn has to buy some shares. Therefore, some trading is likely to be occurring continuously for reasons relating to raising or spending available cash. Such trading is referred to as liquidity trading.
- *General information-based trading:* Companies whose shares are traded are part of a general economic system, and some general events may modify people's views on the wisdom of investing in anything. As a result, this may cause changes in all or most shares traded on an exchange. The share price of companies such as BHP Billiton may therefore change, along with the rest. Examples of such general events are changes in national interest rates, announcements of trends such as inflation or consumer confidence, wars, illness or the death of important people, and elections that change the party in power. If the Australian Government announced a new special tax on company profits, we might expect pretty well every company's share price to fall, including BHP Billiton's, because investors would see this as hurting every company's future profits and, therefore, the returns investors would get from owning shares in any company. Market-wide price changes coming from the economic system are often called systemic effects. Some of the trades may happen because investors think some companies will be hurt or helped more than others, and some investors may be getting out of that market altogether by selling their shares and buying gold or real estate instead.

- *Specific information-based trading:* Information specifically about BHP Billiton's future prospects may also cause changes in the willingness of people to buy or sell its shares. For example, if BHP Billiton announced that it was going to buy a mining company, some people may like that idea (and, wanting to buy, increase the demand for shares) and other people may dislike the idea (and, wanting to sell, increase the supply of shares). If most people think that BHP Billiton buying the other company is a good idea, the share price will rise; if most people think it is a bad idea, the share price will fall. This phenomenon, in which share prices are influenced by and reflect a person's evaluation about the impact or meaning of an event (and their desire, therefore, to hold on to or sell their shares), is very important for understanding share prices and accounting's information role. We can say that the share market prices the information, in that the change in the trading price of the shares (up, down, or not at all) is a measure of the value of the information to the market. Harking back to the accounting concepts, we might say that in a share market sense, *decision-relevant information is material* to the market if knowing about it changes, or would change, a security's market price or, perhaps, would prompt trading (buying and selling) even if the net effect on price were zero.

A great amount of analysis and research in accounting, finance and economics uses this idea to measure the apparent value of all sorts of company-specific information, such as a company's annual announcement of its net profit (earnings announcement), announcements of changes in management and news about other events initiated by or affecting the company. (Presuming that a change in share market prices is a measure of information's value requires some faith in the market system as a social good and confidence in the market's ability to respond appropriately, or efficiently, to information.)

Return and risk

The return you earn by owning a security (a share or bond) is the sum of:

- the cash you get (from dividends or interest payments) plus
- the change (hopefully an increase) in the market price of the security.

You get a cash return plus a holding gain or capital gain (or loss). Capital market theory develops much of its power from analysing the nature of these two kinds of returns, particularly the second kind. If the security you own varies in market price, that variation is, according to the theory, a measure of the risk from owning the security, since prices could go up or down. Risk is calculated as the variance or standard deviation of the prices around the average price – or trend in average price – of that security. A risky security, therefore, is one whose price varies all over the place. As described above, a security's price may vary because the whole share market or bond market is going up or down, or because of information that is specific to that security or to the company issuing the security. So, analytically, the risk is separated into:

- *systemic risk:* the portion of the security's variation that relates to or correlates with variation in the overall market
- *non-systemic risk:* the security's own residual variation not related to the market. Beta (a term coming from the mathematical model used to relate a firm's returns to those of the market overall) is a measure of the security's relationship to overall market variations. Securities can be classified according to this relationship: a low beta security's prices vary less than overall market prices do, while a high beta security's prices vary more than the market does.

Risk can be controlled to some extent by holding a variety of securities with different betas. More will be said about this in the section on aggregates below.

A natural question at this point might be: 'Does accounting information (especially profit or cash flow) help to predict security prices and, therefore, risks and returns?' Market prices are pretty hard to predict, full stop. Therefore, accounting information isn't much help, but neither is anything else. However, accounting information can be helpful indirectly. When important events that do affect security prices are also represented in the accounting information (perhaps later on, since accounting reports come out only quarterly or annually), the accounting information will indirectly be predictive, too. It depends on how well accounting represents the original event: it seems that if phenomena reported in the accounting information

have a clear economic meaning (such as when they represent an impact on cash or risk), they do have some incremental predictive value.

After the fact, however, it is clear that accounting information (especially profit) does correlate highly with market prices. The longer the accounting–price relationship is measured, ordinarily the better it is: accounting profit, for example, usually correlates better with share prices over several years than over a few months. Accounting does relate to whatever affects markets, though calling the shots in advance is hard!

Aggregates

Security markets involve aggregate behaviour. Capital market theory proposes that a sensible investor will invest in a group of securities termed a *portfolio*. By choosing a group with various individual betas (risk measured by variation in returns), the investor can assemble a portfolio with whatever overall risk the investor wishes. Generally, a portfolio is less risky than any individual security because, by adding together a group of securities with different non-systemic risks, the unique variations in each partially cancel each other out. When the price of one goes up, another price may go down. Thus, a portfolio is a way of diversifying away the non-systemic risk.

Portfolio thinking has become pervasive in the investment community. Most research on the impact of accounting information assumes that investors have portfolios of securities, and companies accounting for their own investments (such as marketable securities and superannuation funds) increasingly make the same assumption.

Market informational efficiency

Efficiency of information use means that markets respond so quickly and smoothly to information that once the information becomes public, its effects are immediately reflected in prices through the trading of securities. People who think the information implies that they should buy, do so, from people who think that they should sell. This fast response means that if the market is efficient, you can't use publicly available information (such as public financial statements everyone can read) to 'beat' the market; by the time you have the information and can act, the market will already have reacted to the information and produced a new trading price that reflects that information. You, as an individual trader, don't have the power to do much about the price that the overall sum of buys and sells has produced, so, unless you can trade on your information before anyone else knows it, you will find that the price already reflects the value of the information. If everyone gets an accounting report at the same time, probably only those traders nimble enough to act immediately will be able to take advantage of any news in the report. (More comments on whether accounting reports are likely to be news are made below.)

Capital markets operate on information, but they do so in light of expectations already formed, in accordance with what was already known. Therefore, the markets tend to respond to new information only if it is unexpected. The argument can be made that for an efficient capital market, only the *unexpected* portion of earnings (or of any other such item or announcement) is information to the market. The market will not respond much to financial results that are exactly as everyone expected. There always is some response, though, because various market traders have different expectations and beliefs – these differences make the markets work!

Research indicates that some markets (such as the New York Stock Exchange) are quite efficient with respect to publicly available information, but exceptions have been found. The research is by no means conclusive, and the behaviour of many markets is not well understood (the Australian Securities Exchange, for example, has been studied much less than the New York Stock Exchange). Because informational efficiency is a difficult phenomenon to demonstrate conclusively, it is often called a hypothesis about how markets work: the efficient market hypothesis.

Securities commissions, such as the US Securities and Exchange Commission and the Australian Securities and Investments Commission, are responsible for ensuring that securities trading is as fair as possible. One problem securities commissions worry about is so-called asymmetric information. Some market traders know more than others do about a security and, therefore, could potentially take advantage of the more ignorant

traders. If you know that bad things are ahead, you sell to people who don't know that the price will fall when everyone learns about the bad things, or if you know that good things are ahead, you buy from people who don't know their shares are worth more than they think. A major role of financial accounting is to reduce information asymmetries by producing information that informs everyone.

An example of the effects of asymmetric information is that people on the 'inside' of the company might use their private knowledge to take advantage of other investors. Such insiders can buy or sell before other investors learn about something and, therefore, before the market can reach a new price based on the information. If you were a senior executive of a company, and you knew that tomorrow the company was to release an unexpectedly good earnings report that would cause the share price to rise, you could buy today from share sellers who were ignorant of what you knew. Securities commissions require that any significant information be released quickly and to everyone at once, and they keep an eye on insider trading, which is illegal. Insider trading laws prohibit insider trading, and it can result in very large fines as well as jail sentences.

Financial statements are one of the ways in which companies disclose information about themselves to outsiders. Securities markets certainly pay attention to financial accounting information, but in a world in which many people buy and sell bonds, shares and options several times a day, half-yearly or annual financial statements only provide part of the picture. Much of the information in the financial statements leaks out over the year, in press releases, announcements and official information filings with securities commissions or stock exchanges. For example, the audit of a company's 30 June financial statements may be completed in August and the financial statements printed and issued in November, but throughout the prior year there will have been announcements about important events. Not surprisingly, accounting research shows that share price changes generally happen before the official earnings reports are released, and this is more likely to happen for larger firms about which there tends to be more information available between accounting reports.

There is, therefore, a continual flow of financial-statement-related information and other significant information from public companies to securities markets. The general idea is that information should be released as soon as it is known, so that general market traders are not disadvantaged, compared with insiders. This helps to keep the system fair for all, but it should also assist the market's pricing system to reflect informed evaluations of companies' prospects, so that the market prices are consistent with society's overall interest in the appropriate allocation of economic resources.

A cornerstone policy for stock exchanges is that all persons investing in securities listed on the exchange have equal access to information that may affect investment decisions. Investor confidence in the integrity of an exchange requires timely disclosure of material information concerning the companies listed on the exchange, with the result that all participants in the market have equal opportunities concerning securities trading.

Trading on an exchange can be affected by both material information and the existence of rumours and speculation. In this case, an exchange may require an announcement from a company as to whether such rumours and speculation are factual or not.

HOW'S YOUR UNDERSTANDING?

6C **i** If a particular capital market is described as being efficient, what does that imply about the role and usefulness of financial accounting information in that market?

ii Why is timely disclosure of financial accounting information and other information important to capital markets?

6.11 Contracts and financial accounting information

LO14 Reporting to capital markets is not all that financial accounting is good for – or that managers worry about. Financial accounting plays many other roles that are important to managers and other parties. Such accounting information is used in resource-allocation decisions made by governments, in assessing income taxes, in negotiations with and by labour unions, and perhaps also in enhancing or attacking the political power of certain groups (such as the corporate sector) in society.

This section has some ideas about the contractual relationships among people involved in a business, and about a consequent role of accounting information in how such *contracts* work. There has been much research on contracts, as on capital markets. The area goes by several other names, with differences that are not important to this discussion, including agency theory, principal-agent theory and positive accounting theory.

In a contract, people agree to do things on each other's behalf and to be compensated for doing so properly. For example, managers, auditors, lawyers or physicians are entrusted with acting on behalf of one or more other people (the owners, creditors, defendants or patients). Contracts may be formally written ones (such as legally binding indentures providing protection to bondholders), less-formal employment contracts or supplier agreements or informal arrangements such as a handshake between partners. The person who is to do something and be compensated is often called the *agent*, and the person who wants it done is the *principal*. Many contracts involve both parties doing things for the other, and in any case, it is usually assumed that a valid contract requires that both parties entered into it freely, because both expect to benefit.

There is a fundamental characteristic of contracts among self-interested participants: *the people are unlikely to have the same interests*. Conflict of interests is not viewed as being bad, but rather as being the natural state of affairs. For example, if the agent is to provide effort on behalf of the principal, it would be natural for the agent to want to work less hard than the principal wishes. For the agent, effort is costly and might therefore be minimised, whereas the principal would want the agent's effort to be maximised.

In the contract setting, accounting has a major role in reporting on what the agent did on behalf of the principal. This is the *stewardship* role of accounting information (in monitoring the past stewardship of the agent, such as company managers, on behalf of the principal, such as the owners or shareholders), as distinct from the future-oriented, decision-making role of such information in capital markets. Now the focus is on how the managers behave, rather than on how the capital market (consisting of shareholders and potential shareholders) behaves. You can think of the information produced by financial accounting as resulting from the wish by the various parties to provide incentives and controls over each other's behaviour, especially agents' behaviour. This wish exists because agents are assumed to want to act in their own interests, and, in the absence of appropriate incentives and controls, their interests are assumed not necessarily to coincide with those of their principals.

From this point of view, accounting information is a part of the contract, and should serve the monitoring and other needs of the contracting parties. Principals and agents specify what they need and accounting serves that, so accounting is useful, and not in any sense 'right' or 'wrong'. If conditions change between various parties, accounting (and auditing) will change to meet the new conditions. Principals and agents will demand whatever information they require to manage the contractual relationship between them, and information, therefore, can be judged only in terms of that specific relationship. Is it what they need, or isn't it?

Here is an example. Suppose the shareholders of Lakewood Limited wanted management to work hard to maximise the price of Lakewood's shares, which are traded on a stock exchange. The higher the price, the better the return will be to the owners from owning the shares, and the higher their wealth will be. The owners might, through their representatives on Lakewood's board of directors, propose a management contract that specifies that the top managers get no salary, but instead get 20 per cent of the change in the

company's share price over each year. The top managers might well reply that this is too risky for them, because all sorts of things might affect share price, including things over which they have no control, such as wars, recessions or other unexpected problems. The share price could go up, but it might as likely go down. The managers may then propose that they should be paid a flat salary of $200 000 each, regardless of changes in share price, believing that the owners should take the risks. This isn't what the owners want, because they are concerned that the managers will not be sufficiently conscientious if they are guaranteed a salary regardless of performance.

Therefore, the two parties negotiate. Finally, a contract is agreed upon. Suppose it says that the managers will get $150 000 each, plus performance bonuses of 5 per cent of the annual net income and 3 per cent of the increase in share price, with no penalty for negative income or negative change in share price, but with no bonuses then either. (The owners, interested in maximising the share price, and the managers, feeling that they have more control over net income than share price, would in this case have agreed to include both factors in the bonus calculation.) Management compensation contracts are often very complex, and a subcommittee of the board of directors may be created specifically to design and monitor such contracts. Securities commissions increasingly require public companies to disclose the nature of such contracts and the compensation that results from them, especially for the chief executive officer and other senior managers. Management compensation contracts – in which pay depends on performance, and which pay off in shares or options to buy shares cheaply, in addition to cash – have become very common in recent years.

The result is that the managers, as agents for the owners (the principals), have agreed to work for the owners, and the owners have agreed to employ the managers. Both parties have entered into the contract for their own reasons, and both are satisfied with it (or they would not have agreed). Now the owners can use financial accounting information to monitor the managers' performance and to calculate their bonuses based on net income. Both parties, because of their contract, are interested in the accounting information, and neither would be satisfied without accounting. They may specify in their contract that GAAP be used to calculate net income, for the sake of convenience or because they prefer it that way. They also may specify other ways of calculating net income that they think are to their mutual advantage.

If many companies have these sorts of bonus arrangements or other incentive contracts in which financial accounting information plays a role, there can be strong pressures on the development of GAAP or official accounting standards in directions that improve the effectiveness of such contracts. These pressures are likely to be in similar directions to those of, say, capital markets, because the owners are trading their shares on such markets. They will not be exactly the same, though, because the managers have to agree to the contracts too, and may not want, for example, to bear as much risk as the capital market might like them to.

There is also a clear role for auditors in the smooth functioning of contracts. If the managers are responsible for the accounting information and are being paid on the basis of it, the owners (who are perhaps some distance from the company's offices and in any case would not want to have to show up to ask questions about accounting) may not be inclined to trust the managers' figures, and would prefer having an outside auditor evaluate them. Adding credibility to management's information is the oldest reason for auditing, and still central to it.

There are many kinds of formal and informal contracts, with many parties other than managers (such as suppliers, associated companies, foreign business partners and governments) that may use financial accounting information. The parties to such contracts will necessarily have an interest in the financial statements, in GAAP, in auditing, and in the other aspects of financial accounting. They will, therefore, act as part of the system of information demand and use that shapes accounting. Some of the contracts that are likely to be of interest from a financial accounting point of view include management compensation contracts (as illustrated above), labour contracts, contracts with suppliers and/or customers, and financial contracts, such as those drawn up for issuance of bonds, other debt or equity. One reason for written contracts is the conflict of interests mentioned earlier. For example, bondholders receive a claim on the company, or its assets, that has a higher legal priority than the shareholders' residual claim. A contract, such as a bond

indenture, is written specifying the exact rights of the bondholders. The indenture might say that if the company's working capital falls below a certain level, the bondholders have the right to demand early payment or some other penalty. This doesn't remove the conflict of interests, but clarifying the situation makes everyone's assessments of the company's performance and prospects more informed.

HOW'S YOUR UNDERSTANDING?

6D Green Limited has a set of management bonus contracts for its senior executives, specifying that their pay will be based partly on how well the company performs. Brown Limited, however, just pays its managers a flat salary. What differences would you expect in the attitudes of the two groups of managers to their company's financial statements?

6.12 Managers and financial accounting standards

LO14 Managers may be interested in accounting standards for several reasons. On the positive side, standards should:

- make reports on managers' performance clearer
- make it easier to make comparisons with other companies
- reduce the costs of accounting (each company would not have to work through and invent accounting methods on its own)
- increase the company's credibility in the eyes of important users who utilise financial statements in general
- help to evaluate the conceptual and numerical effects of accounting choices and business decisions managers may have to make.

On the negative side:

- Standards may specify general methods that do not work well for, or even mismeasure, some specific companies or situations.
- Not all managers may wish to be measured clearly or have their company's performance easily compared with that of other companies.
- Some complex standards may be quite costly to follow for some companies.
- New standards may cause difficulty for loan agreements, bonus plans or other arrangements that depend on accounting information, and were agreed to before the implementation of the new standards.

With reasons like these, it should be no surprise that the senior management of many companies (and of the firms of auditors who have the companies as clients) take accounting standards very seriously. Many companies seek to influence accounting standards through lobbying standard-setters, lobbying securities commissions and other government agencies, and doing their own studies into the effects of proposed standards. One of the main reasons that top managers of public companies pay close attention to their companies' financial statements, earnings announcements and other disclosures is that share markets and other securities markets respond quickly to information, and do so in accordance with the value of that information to the market traders.

The less a company is in the public eye or the less it is involved in various securities markets, the less it is disciplined by such markets. However, even private companies are not immune to such discipline, because they often compete or cooperate with, or are suppliers to or customers of, more directly affected

companies, and also because even private owners often wish to sell their companies, borrow heavily or take other action that brings their performance information under scrutiny (e.g. common ways of calculating the value of a private business make extensive use of financial statements, and the performance and trends they reveal).

Managers also pay close attention to their companies' financial statement figures, because important contracts are based on those, explicitly or indirectly. Many top managers are compensated based on the profit shown in the financial statements, and many own shares in their companies. In addition, if the company is a public company, the top managers may lose their jobs if stock market prices decline or fail to rise as the board of directors wishes.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Asset recognition

Indicate whether each of the events described below gives rise to an asset under the definition and characteristics within the Framework. If so, show the amount of the asset. What would the asset be called?

1. A temporary excess of cash is used to purchase shares in BHP Billiton for $8500.
2. A deposit of $5000 is paid on custom-designed equipment to be completed and delivered next year. The total purchase price of this equipment will be $20 000.
3. A supplier sends notice that $900 worth of raw materials has been shipped by freight, with payment due in 30 days. The buyer obtains title to the goods as soon as they are shipped by the seller.
4. A customer places an order for $600 worth of goods.
5. A production manager has been hired to oversee the company's operations, with employment commencing next month. One-twelfth of the annual salary of $96 000 is to be paid at the end of each month worked.
6. Inventory is acquired at a list price of $1200, with payment made in time to secure a 2 per cent discount for prompt settlement. Cash discounts are treated as a reduction in the acquisition cost of the inventory.

PRACTICE PROBLEM B

Liability recognition

Indicate whether or not each of the following events immediately gives rise to the recognition of a liability. If a liability is recognised, state the account title and the amount.

1. A firm signs a contract to purchase at least $40 000 worth of merchandise during the next two months.
2. A cheque for $240 for a two-year subscription to a magazine is received.
3. A construction company agrees to build a bridge for $2 million. A down payment of $200 000 is received upon signing the contract, and the remainder is due when the bridge is completed.
4. During the last pay period, employees earned wages amounting to $24 500 for which they have not been paid. The employer is also liable for payroll taxes of 8 per cent of the wages earned.
5. A company is informed by a previous employee that he is suing the company for $300 000 for wrongful dismissal.

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1. Write a paragraph or two discussing the following topic: 'The only thing worse than the large and complex set of practices, standards and theories that make up GAAP would be if there were no such thing as GAAP.'
2. Define an asset. What are the essential characteristics of an asset?
3. Define a liability. What are the essential characteristics of a liability?
4. Describe each of the following methods for measuring assets and liabilities:
   a. historical cost
   b. price-level-adjusted historical cost

   c market value
   d value in use
   e liquidation value
5. Compare the concepts of value in use and value in exchange.
6. Argue both for, and against, the following proposition: 'Historical cost accounting is irrelevant to users' decision-making.'
7. Why is ethics so important to a profession? Is there really a necessity for ethical guidance for members of a profession?
8. What statements are included in a complete set of financial statements?
9. What is the purpose of the notes to the financial statements?
10. Go to the web page for a listed company, find its annual report and describe the contents of the CEO's report.
11. What purpose does the auditor's report serve?
12. What are the types of audit reports, and what does each indicate to the users of financial statements?
13. In addition to the financial statements, what else is included in an annual report?
14. Auditors play an important role in the financial reporting system, and their independence from their clients is an essential feature of this system. Why is such independence considered necessary? Why is it difficult to maintain?
15. a To an investor, what value has been added to the financial statements by the auditor's report? Why?
    b Suggest some limitations regarding the value of the auditor's report that an investor should be aware of.
16. Do you think not-for-profit organisations should follow the same GAAP that business organisations do? Why, or why not?
17. Give examples of cases where there is a conflict of interest between preparers of financial statements and users of them.
18. Should a senior financial manager who works for a company, and is a professional accountant, have to meet the same standards of professional ethics as does a colleague who is an external auditor in public practice? Why, or why not?
19. What is the role of information in a capital market?
20. What is meant by the efficient market hypothesis?
21. What is the major purpose of a stock exchange?
22. Explain the terms 'agency theory' and 'stewardship'.
23. Briefly describe two important implications capital market theory has for the use of accounting information.
24. Briefly describe two important implications agency (contract) theory has for the use of accounting information.
25. It appears that some top managers attempt to manage their companies' financial disclosure, including their financial accounting, to alter the story each disclosure tells. Why might managers be motivated to do this?
26. Why should the shareholders of a large, publicly traded company want to have the company's financial statements audited?
27. The auditor's report is normally written using standard wording. The idea is that, if things are not all right, variations from the standard wording will alert users of the financial statements. Is that consistent, or inconsistent, with capital market theory?

PROBLEMS

PROBLEM 6.1

Can financial statements meet various needs?

The chairperson of the board of directors of a large public company said in frustration: 'The company's written and unwritten contracts with its shareholders are so different from those with its managers that it's impossible to design financial statements that will meet the needs of both shareholders and managers.' What do you think?

PROBLEM 6.2

Financial statement assumptions

In Chapter 1 the basic financial statement assumptions were outlined. With the knowledge you have gained in Chapters 1 to 6 you should now be in a better position to understand these assumptions.

Listed below, in journal entry form, are certain unrelated accounting situations and (where applicable) the accounting treatment that has been followed by the firms concerned.

1 YZ Ltd has purchased, for $2 million, a computer that it expects to use for three years. At the end of this period, it plans to acquire, for $4.5 million, a faster computer with greatly increased storage capacity. The directors decided to 'provide for one-third of the estimated cost of a new computer during the current year'.

Accounting treatment:			
DR	Depreciation expense	$1 500 000	
CR	Accumulated depreciation		$1 500 000

2 During the current year, geologists and engineers hired by the Duchess Oil Company revised upwards the estimated value of natural gas and oil on property leased by the company. The directors instructed the accountant to record goodwill of $5 million, the estimated value of gas and oil deposits in excess of previous estimates.

Accounting treatment:			
DR	Goodwill	$5 000 000	
CR	Gain on revaluation of gas and oil deposits		$5 000 000

3 The board of directors of Ryan Corporation disposes of a major segment of the organisation, but omits any mention of this in the annual report 'to protect the interests of shareholders'. Profit is correctly stated and total figures in the balance sheet are correct in total.

4 Zig-Zag Ltd changes its method of depreciation every three years, but clearly discloses the change in its published financial statements.

5 The financial year of Saturated Ltd ends on 31 December. It is now 21 January, and financial statements for the year just ended are being prepared. On 10 January, a cyclone destroyed a warehouse servicing the northern part of the country, and most of the inventories stored in the warehouse were rendered worthless. Because there is some doubt concerning the payment of the insurance premium by the due date, it remains unsettled as to whether the loss is in fact covered by insurance. This possible loss was reflected in the financial statements for the year just ended.

Accounting treatment:			
DR	Cyclone loss	$450 000	
CR	Inventory		$450 000

6 It has been customary for HPB Ltd, one of the country's largest corporations, to capitalise and depreciate all newly acquired assets costing more than $200. This year, the board of directors has instructed that, in future, all acquisitions of less than $500 are to be immediately written off as expenses.

7 BNM Insurance, by action of the board of directors, wrote down the value of its head office building to a nominal amount of $1. The objective was to bolster its policyholders' confidence in the financial strength of the organisation by obviously understating assets.

Accounting treatment:			
DR	Retained profits	$19 999 999	
CR	Buildings		$19 999 999

In each of the given situations, indicate which basic accounting assumptions are involved, and whether they have been used appropriately. In those situations where you consider that the accounting assumptions have not been used appropriately, discuss the effect of this departure from normal practice on the financial statements. The accounting assumptions were set out in section 1.8 of Chapter 1.

PROBLEM 6.3

Accounting concepts and economic agents

1. Explain why each of the following concepts is important in relation to financial reporting to markets and other economic agents that rely on such reporting:
   a. economic entity assumption
   b. historical cost basis of accounting
   c. faithful representation
   d. generally accepted accounting principles
   e. professional ethics of the accountants and/or auditors involved in producing financial statements.
2. How have each of these concepts been incorporated into the financial statements of a large public company you know about? Give specific examples.
3. Now apply these ideas to a small private company, such as your local Thai takeaway, newsagent or pharmacy. Are these concepts still relevant? Why or why not?

PROBLEM 6.4

Usefulness of accounting concepts and principles

Jason is a hard-driving, impatient business executive. You work for him, and can feel the grey hair sprouting on your head from all the pressure. One day, he returns from a lunch meeting with his accountant and says, 'That accountant told me that there are accounting concepts and principles that tell me important things about why my financial statements are useful, why they are worth all the money they cost to produce and audit. I'm not convinced.'

Give Jason five reasons why accounting concepts and principles are useful. You may wish to refer to the accounting concepts and principles referred to in Chapter 1. Make your explanations brief and to the point: Jason hates longwinded answers!

PROBLEM 6.5

Recognition in accordance with standards and the Framework

For each of items 1–5 listed below, state whether, in accordance with existing accounting standards and the Framework, it would be recognised as:

a. an asset
b. a liability
c. a contingent liability
d. revenue
e. an expense
f. none of the above.

Items:

1. a provision for annual leave
2. $1 million payable under a guarantee in the event of a third party being unable to pay
3. purchased goodwill
4. a patent
5. the excess of research and development costs over the expected future economic benefits of the project.

PROBLEM 6.6

Recognition of an asset

The general manager of Telco Limited is considering spending $15 million on the development of a new mobile phone that can also be used as a television.

What conditions would need to be met before the $15 million can be recognised as an asset on the balance sheet?

PROBLEM 6.7

Conceptual components of asset cost

The new accountant for Mactaggart Industries is wondering how to calculate the cost of a new machine the company has just installed. Explain briefly whether or not you think each of the following items should be part of the machine's cost, and why:

1. the invoice price of the machine
2. GST paid on the machine
3. shipping charges to get the machine to the company's factory
4. the cost of the factory manager's trip to the machine manufacturer's plant to choose the machine
5. the cost of painting the machine light green, as other machines in the factory are painted
6. estimated revenue lost because the machine arrived late
7. the cost of substandard products made while the factory personnel were learning how to operate the machine (all thrown away so as not to damage the company's reputation for quality products)
8. interest cost on the bank loan used to finance the machine's purchase
9. the cost of moving three other machines in the factory to make room for the new one.

PROBLEM 6.8

Determine asset costs from various possible components

Determine the costs that would appear on the balance sheet of Smith Co. Ltd, in relation to land and a building, based on the following information:

	$
Purchase price of plant site	175 000
Building materials (includes $10 000 in materials wasted because of worker inexperience)	700 000
Machinery installation charges	40 000
Grading and draining plant site	20 000
Labour costs of construction (Smith Co. used its own workers to build the plant rather than laying them off because business was slack. However, the labour to build the plant cost $40 000 more than outside contractors would have charged, because of inside workers' inexperience and inefficiency.)	500 000
Machinery purchase cost	1 000 000
Machinery delivery charges	10 000
Parking lot grading and paving	60 000
Replacement of building windows shot out by vandals before production start-up	7 000
Architect's fees	40 000

PROBLEM 6.9

Asset recognition

State whether or not an asset should be recorded in the balance sheet of LMR Ltd as at 30 June 2019 in each of the following situations. Indicate the amount of the asset (if any) and any assumptions made.

1. On 15 May 2019, LMR Ltd paid $10 000 for an insurance premium. The premium covers losses incurred in the period up to 14 May 2020.
2. LMR Ltd paid $100 000 for a patent in April 2019.
3. LMR Ltd has just hired a new general manager who is an expert in the business carried on by LMR Ltd. With the help of this person, the company is expected to increase its annual profits by $850 000. The general manager's salary is $450 000 per annum.
4. LMR Ltd purchased land in 1994 for $500 000. The market value of this land is $750 000 as at 30 June 2019.
5. On 29 June 2019, LMR Ltd paid $900 000 for a printing service business consisting of machines worth $500 000 and a list of 75 established clients.

6 Over the years, LMR Ltd has created goodwill among its clients so that it now enjoys good relations with over 2000 customers. It is estimated that if the business was sold, as at 30 June 2019, LMR Ltd could demand an additional $400 000 above the sale price of its physical assets.
7 A machine is purchased for $500 000 and costs an additional $200 000 to install.

PROBLEM 6.10

Recognition of assets

For each situation below, state whether an asset would be recognised in the balance sheet. If the answer is no, state which of the essential characteristics relating to assets has not been met.

1 Equipment is purchased on credit.
2 Cash is received from a cash sale.
3 A yearly insurance policy is paid in advance.
4 A department store receives goods from a manufacturer on consignment. A consignment is a selling arrangement whereby a company (consignor) ships goods to an agent (the department store), who agrees to sell the goods on behalf of the company for a commission. Under the agreement, title to the goods remains with the consignor until the goods are sold to a third party.
5 Land is donated to a sporting association.
6 A sporting association receives a grant from the local council to build a new tennis court.
7 A patent is purchased using cash.
8 Money is spent on research and development that is unlikely to lead to any new product in the near future, but has the potential to lead to developments in the long term.
9 A company hires a new general manager who has a reputation for increasing profits in her first year with any new employer.
10 BHP Billiton shares are purchased for cash.
11 A council swimming pool offers free admission to ratepayers who provide identification.
12 A luxury resort paves a gravel road from the highway to the resort. The road can also be used by others to get to a number of sporting facilities in the area, including a golf course that is not owned by the resort.
13 A new printing press is acquired.
14 A piece of equipment has a written-down value of $100 000, and is no longer used by the company. It has no scrap value.

PROBLEM 6.11

Identify items as assets, liabilities or owners' equity

State whether or not, and why, each of the following items is likely to be an asset, a liability or an owners' equity account (perhaps both an asset and a liability in some cases) of the company indicated:

	Company	Item
1	News Corporation	List of subscribers to a magazine
2	Qantas	Funds collected from employees, to be repaid to them after retirement as superannuation
3	Westpac	Westpac's satisfied customers
4	Any company	Lawsuit against the company by a builder who alleges the company failed to pay for work done on the company's premises
5	Any company	Land that the company has agreed to sell to a real estate developer once it has been surveyed
6	Westpac	Westpac's dissatisfied customers
7	Fairfax Media	*Australian Financial Review's* skilled group of editors and reporters
8	Ampolex	Oil discovered on Ampolex's property, but still underground and likely to stay there for many years
9	Sydney Football Club	Players under contract to the team
10	Harvey Norman	Deposits received from customers of Harvey Norman for furniture not yet delivered to them
11	Woolworths	Profits earned by Woolworths, but not yet paid out to the owners as dividends

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12	FedEx	A fleet of delivery trucks leased by FedEx from several truck-leasing firms
13	Hertz	A car Hertz leases to a real estate salesperson
14	Telstra	Funds owing to Telstra by a customer who recently declared bankruptcy
15	Qantas	The phrase 'The Flying Kangaroo' and the logo, both registered trademarks
16	Westfield Holdings	The parking lot surrounding Roselands Shopping Mall, Sydney
17	Wesfarmers	A guarantee Wesfarmers has made on a bank loan owed by an associated company
18	New beer company	A newly developed beer with reduced calories that has yet to be approved by the government

PROBLEM 6.12

Recognition of liability

BRK Limited is being sued for $3.5 million by a client for defamation resulting from statements made in newspapers by one of its executives. In each of the situations below, state whether a liability should be recognised in the balance sheet.

1. BRK receives legal advice that it is unlikely that the claim will be successful.
2. BRK receives legal advice that the claim has about a 50 per cent chance of being successful.
3. BRK receives legal advice that the claim is likely to be successful, with damages somewhere between $500 000 and $3 million.
4. BRK offers the client $1 million in full settlement, but the client refuses.
5. At year-end, BRK is informed that legal costs to date are $400 000, and they will increase substantially in the new year, depending on whether the matter goes to court or not.

PROBLEM 6.13

Recognition of liabilities in the balance sheet

State whether or not each of the following events would result in a liability being recognised in the accounts at 30 June. If so, what will the liability be called? If not, explain the reasons why it would not be recognised as a liability.

1. Taxes for the year ended 30 June, which are not payable until October.
2. Wages to be paid on 2 July to cover the two-week period up to 30 June.
3. The company sells washing machines and gives a one-year warranty to repair or replace any faulty machines.
4. A construction company receives a $5 million advance in June for a contract. The work will commence in July.
5. The company has signed a contract to pay its managing director $500 000 per annum (inflation adjusted) for the next four years.
6. On 1 June, the company is informed that it is being sued for damages of $1 million caused by a faulty product. The company denies liability.
7. The company will go to arbitration in July to determine the amount of payment to repair environmental damage caused by one of its factories.

PROBLEM 6.14

Recognition of liabilities

Samantha is the accountant for Prior Ltd. How would you advise her to account for the following items in the financial statements, as at 30 June 2019?

1. A production manager was appointed on 1 May 2019 under a two-year contract that specifies an annual salary of $50 000 for each of the two years. The contract can be terminated with six months' notice from either party.
2. The company pays, into a bonus pool, 5 per cent of the profits reported at the end of June for distribution to participating employees.

3 A subsidiary of Prior Ltd has just been placed in receivership. In April 2019, Prior Ltd signed as guarantor for an $800 000 two-year loan from a finance company to the subsidiary.
4 Based on his experiences in previous years, the customer service manager expects warranty claims against sales made during 2019 to amount to $70 000.
5 Gower and Co. is suing Prior Ltd for breach of contract. Samantha thinks Gower and Co. will probably lose the case.

PROBLEM 6.15

Liability recognition

Indicate whether each of the events described below results in a liability under the definitions and characteristics within the Framework. If so, show the amount of the liability. What would the liability be called?

1 A bank loan of $10 000 is obtained, with the company signing an agreement to repay the amount in six months, together with interest of 8 per cent per annum.
2 Electricity used in the past month, worth $230, has not been paid for.
3 A $3000 cheque is received from a tenant for three months' rent in advance.
4 A company signs a two-year employment contract with a marketing manager. Employment begins next month, at a contract price of $150 000 per year.

PROBLEM 6.16

Effects of an asset accounting change to market from cost

Beauport Ltd owns several parcels of land in the Sydney area. The area has been subject to wide swings in real estate values, and the general manager is doubtful that the historical cost basis is appropriate for use in accounting for the company's land and buildings. Give short but careful answers to the following questions asked by the general manager.

1 'If we changed to market values for the real estate, instead of cost, would that make our balance sheet look better or worse?'
2 'Similarly for profit: would using market value instead of cost make us look more profitable or less profitable?'
3 'Does it matter what we do, as long as we disclose both cost and market value somewhere in our financial statements?'
4 In what way do the general manager's questions reflect a choice between the concepts of value in use and value in exchange?
5 What other bases for valuing the parcels of land and buildings would be available to the company?

PROBLEM 6.17

Authoritative standards, capital markets and contracts

Many of the accounting methods you are studying in this book are based on authoritative standards (such as AASB Statements), which attempt to specify how companies' financial accounting should be done. Such standards don't cover everything: companies must still make many choices when they are preparing their financial statements.

Why are there authoritative standards for companies to follow? Why don't they cover everything? Should we have more or fewer of them? Situate your answer in the context of this chapter's theories about information use.

PROBLEM 6.18

Auditors and forecast information

Recently, there has been pressure to expand the role of auditors, because investors and other groups are demanding more forward-looking information. If these demands are met, auditors may be expected to review the plans and forecasts of a company that will be reporting to the public, and to determine the fairness of such forward-looking financial statements.

Discuss the implications of this expanded role for auditors, using such concepts as independence, information value, comparability, agency theory, capital market theory, relevance, reliability, objectivity and any other concepts that you feel are important.

PROBLEM 6.19

Capital markets, auditors and contracts

1 On 31 October 2018, analysts predicted that the earnings per share of Oakes Ltd would equal $4.80 for the year ended 31 December 2018. Actual results were announced on 27 February 2019. Earnings per share for 2018 came to $3.95. Consider the three dates noted above (31 October 2018, 31 December 2018 and 27 February 2019). On which of these dates would you expect to see share prices react to earnings information? Why? Can you predict the direction in which share prices would react on any of these dates? Explain why or why not.
2 Explain the importance of the audit function in the context of a large company where the ownership (composed of a large number of private investors) and the management are separated. To whom are the auditors primarily responsible? By whom are they hired? What would the investors expect of the auditors? Do your answers indicate anything that is inconsistent with the auditor's role as an independent party?
3 Agency theory describes the problems that are inherent when one party (the principal) hires a second party (the agent) to do work on the former's behalf. Choose one contractual relationship existing between parties connected with a corporation and describe this relationship in an agency theory context.

PROBLEM 6.20

Threats to an auditor's independence

Pat is the partner on the audit of Hardwood Emporium Ltd. Comment on whether or not, and why, each of the following may be a threat to Pat's independence.

1 Pat and the chief financial officer of Hardwood Emporium play golf together every few weeks.
2 During the audit, Pat notices that the company has a serious problem with its computer system. Pat's accounting firm is then hired by Hardwood Emporium to do a major redesign of the system, for a large fee.
3 As part of the completion of the audit, Pat works with the company to determine its likely income tax liability for the year, including helping to prepare the company's income tax returns. Pat bills the company for the tax advice separately from the audit fee.
4 Pat's former assistant on the Hardwood Emporium audit is hired by the company as the chief financial accountant, who is responsible for preparing all the company's financial statements.
5 Pat is asked to submit a bid on the audit fee for next year's Hardwood Emporium audit, in competition with several other accounting firms. Pat decides to submit a very low bid because the revenue from tax and consulting services would make up for the lower audit revenue.

PROBLEM 6.21

Ethics

For each of the following situations, state which of the fundamental principles have been breached:

1 making a materially false statement
2 two accountants on a plane after a few beers discussing future plans of a taxation client
3 owning shares in an audit client
4 advertising that your firm's clients have fewer tax audits than clients of other firms
5 not providing adequate training for your audit staff

PROBLEM 6.22

Ethics

From the following list:

a self-interest
b self-review

c advocacy
d familiarity
e intimidation

state what type of threat each of the following situations provides:

1 Your client is suffering financial hardship, and has advised you that unless audit fees are dropped by 50 per cent the client will put the audit out to tender.
2 An audit client has temporary staff shortages, and another division of your firm provides staff to help out in preparing the financial statements.
3 Your major audit client is growing quickly, and now accounts for 40 per cent of your total fees.
4 An audit client informs you that the CFO is retiring next year, and asks you to take the job after completion of this year's audit.

PROBLEM 6.23

Ethics

From the following list:

a self-interest
b self-review
c advocacy
d familiarity
e intimidation

state what type of threat each of the following situations provides:

1 You have been partner on CKT Ltd for over 20 years. The client has a reputation for producing very high-quality accounts.
2 You completed the audit below budget this year as you had the benefit of a new streamlined information system developed by your firm.
3 You are excited because you go on a month's holiday the next day. You find an unusual transaction but when you mention it to your supervisor he reminds you to consider the need to follow up, and that if you do so you will need to complete this before you go on holidays.
4 You inherit $20 000 of shares in a client that you audit.

PROBLEM 6.24

Capital markets and contracts for a corporation

Choose any large, well-known corporation you are interested in, and answer the following questions, based on your choice.

1 What kinds of capital markets are likely to be important to the company?
2 Suppose those capital markets are efficient, and an unexpected and important piece of information about the company is released. What is likely to happen? Would it make a difference if the markets expected the information?
3 List some of the explicit, implicit or even casual contractual relationships between the company and other internal or external parties that are likely to be important to the company's success.

CASES

CASE 6A Woolworths Limited

Refer to the full financial statements of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 Find each of the following and indicate the page:
   a summary data on the company's performance
   b a letter to shareholders from the company's chairperson of the board of directors or managing director

c management discussion and analysis
d a corporate governance statement
e the directors' statement
f the auditor's report
g the directors' declaration
h the five-year summary.

2 Who is the auditor?
3 What are the main items covered in the auditor's report?
4 What are the main items covered in the directors' statement?
5 What are the main items addressed in the corporate governance statement?
6 What risk-management policies are discussed?
7 What does the company say about corporate ethical standards?
8 Identify two different groups of users of financial statements of Woolworths Limited.
  a What decisions do they make based on corporate financial statements?
  b What specific components of the Woolworths Limited financial statements would they be most interested in?
9 Peruse the list of assets in the balance sheet and the related notes. How are the assets valued? Are there 'assets' that are left out that you would have expected to see?
10 How are the concepts of fair value and value in use used by Woolworths?
11 Woolworths Limited also includes a section in its reports titled 'Doing the right thing'. Within this section of the report the management of Woolworths Limited suggests the firm is committed to 'maximising the social, economic and environmental benefits of its business'. What measures of performance are provided to those stakeholders other than the shareholders and debt holders of the firm?
12 What stock exchange is Woolworths Limited listed on? How many shares are issued? Look up a newspaper or online to discover its share price.
13 List three accounting-related events that are likely to increase the company's share price.
14 Are there any forms of incentive contracts in place for executives (see Woolworths' web page)?

CASE 6B Assets and liabilities

Read the following facts:

The merger between Northcorp and Carnation resulted in large losses for Northcorp resulting in a $642.5 million write-down of goodwill and a $240 million write-down of the value of the Carnation brand. Also the company recorded a $95 million in one-off provisions and restructuring costs.

1 Using the definition of an asset, explain why the assets discussed within this extract would be written down.
2 What accounting concepts would have been considered when determining the write-down of assets?
3 Using the definition of a liability, explain why the provision discussed within this extract may have been created.
4 Show the effect on profit of each of the amounts of $642.5 million, $240 million and $95 million. What other accounts would be affected?
5 Provide possible journal entries for the items in question 4.

CASE 6C Executive compensation plans

Find some newspaper or magazine articles about executive compensation. With capital market and agency (contract) theory as a background, discuss the compensation used by each company.

1 What features of each plan relate to the performance of the company's shares on the stock market?
2 What features of each plan relate to management's stewardship of the company on behalf of the shareholders?
3 What role does accounting information play in compensation for each company?

HOW'S YOUR UNDERSTANDING SOLUTIONS

6A i An auditor does not guarantee the accuracy of financial statements but provides an opinion on whether the financial statements show a true and fair view and are in compliance with accounting standards.

ii An 'except for' opinion.

6B One of the more interesting and challenging aspects of being a professional is dealing with such ethical issues. Some of these examples do not have clear answers, but here are some ideas:

i External auditors are supposed to be independent scrutineers of their clients' financial affairs. Mary should probably not accept the deal, unless it is available to anyone who turns up at a retail store, because accepting it would undermine her independence. Being friendly with clients is fine, but auditors also have to maintain some distance from clients to protect their independence and integrity.

ii Andrew should tell Westward what he heard and suggest that they look into their printing costs. When doing their work, auditors acquire a great deal of confidential information about their clients and must be very careful about how they use it. In this case, the information was not acquired under circumstances of confidentiality. Andrew may find himself in court over the issue, however, so he may need to seek legal advice before speaking to Westward.

iii Sean needs to take some action to remove himself from the job of auditing his wife's work – to protect both her and his integrity. The firm almost certainly has rules about such relationships. It is likely that these involve transferring the job to another partner and keeping Sean entirely ignorant of the work on the Westward audit. The firm might have to resign the audit.

iv Michelle's situation is very complex. There is a mixture of information that was acquired confidentially and a duty to society. Much more has to be known before any advice could be offered to Michelle. At the very least, Michelle and the firm would have to get legal advice immediately. The boards of directors of most large companies have audit committees to give the auditors a way to bring criticisms of management to the board's attention. Michelle's firm would likely raise this with Westward's audit committee.

v Erin's is another very complex situation. Erin is responsible for protecting the confidentiality of her client, Basic, and would get into trouble if she told another company what she had learned on the audit. However, her firm is also responsible to both clients. Again, she and the firm would need immediate legal advice.

vi Most firms have rules prohibiting members of the firm from having an interest in any clients audited by the firm. George would have to sell his shares in Westward immediately.

6C i If a particular market is described as being efficient, it implies that publicly available information (such as public financial statements everyone can read) cannot be used to 'beat' the market. By the time an investor obtains the information and can act on it, the market would already have reacted to the information and incorporated it into share prices.

ii Timely disclosure of information is important to capital markets in order to eliminate some traders gaining an advantage over others by having the information earlier.

6D You would expect the managers of Green Limited to be more interested in the financial statements reflecting positive performance, as their remuneration is directly related to financial performance of the company. This may increase the chances of them selecting accounting policies that increase the company's profit (see Chapter 16) and may also increase the likelihood of financial statement fraud.

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1 Investments $8500

2 Deposit on equipment $5000

3 Inventory $900
4 Nil, past transaction has not occurred
5 Nil, past transaction has not occurred
6 Inventory, 98% × $1200 = $1176

PRACTICE PROBLEM B

1 No liability, no present obligation.
2 Liability – unearned revenue (also called 'revenue received in advance') $240
3 Unearned revenue $200 000
4 Wages payable $24 500. Payroll tax payable $1960
5 Nil, at this point. Potentially, a contingent liability

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NOTES

1 This section is heavily based on material provided by Malcolm Miller. Additional material was provided by Mahreen Hasan, Roger Simnett and Diane Mayorga.
2 Parts of this section rely on information in *A Guide to Understanding Auditing and Assurance: Listed Companies 2014*. We thank Amir Ghandar for his advice on this area.

7 Internal control and cash

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 outline the components of a good internal control system (7.1)

LO2 describe management's responsibilities for maintaining control over an organisation's assets (7.1)

LO3 provide information for evaluating an internal control system and for purposes such as fraud prevention (7.1)

LO4 develop internal control procedures to protect cash (7.2)

LO5 explain the role of bank reconciliations as part of an internal control system (7.3)

LO6 prepare a bank reconciliation statement (7.3, 7.4)

LO7 explain the use of petty cash as an internal control for cash (7.5, 7.6, 7.7)

CHAPTER OVERVIEW

This chapter looks at the importance of a good internal control system. The basic techniques for designing an internal control system are discussed. This chapter also considers the internal controls which exist for one important asset, cash. Some emphasis is given to the bank reconciliation, which is a key internal control over cash.

7.1 Internal control

LO1 LO2 LO3 Internal control should be, and is, an important issue in most organisations. The reason is that internal controls increase efficiency and effectiveness of operations, reduce risk of asset loss, help ensure the reliability of financial statements and help ensure compliance with laws and regulations. These four items are all critical for all organisations, irrespective of size.

Internal control is:

> a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories:
>
> 1 effectiveness and efficiency of operations, including safeguarding assets against loss
>
> 2 reliability of internal and external financial and non-financial reporting
>
> 3 compliance with applicable laws and regulations.
>
> Source: *The Internal Control – Integrated Framework* by the Committee of Sponsoring Organizations of the Treadway Commission (COSO 2013).

Let's consider some of the points in this definition. First, internal control is not one event or circumstance but a process integrated with other basic management processes, including planning and monitoring. Its effectiveness is a state or condition of the process at one or more points in time; that is, particular parts of the process working on particular days.

It is affected by the actions of people in the organisation including management, the board of directors and other personnel. It has an impact on people in the organisation; for example, management sets 'the tone at the top', which affects integrity and ethics and other positive control features. The chief executive officer (CEO) is ultimately responsible for internal control. Management is accountable to the board of directors, and this board provides governance, guidance and oversight to the organisation. Other personnel are also involved as they provide information used in the internal control system and take actions needed to affect controls, such as authorising the payment of an account. Internal control affects the working life of most personnel; for example, having an impact on what responsibility they have and limiting the authority they have (such as being authorised to make payments up to $5000).

Internal control, regardless of how well it is operated and designed, can only provide reasonable assurance rather than absolute assurance to management and the board of directors regarding the achievement of an organisation's objectives. All internal control systems have certain inherent limitations. First, they are limited by the problems of human judgement. Even if a control system is well designed, individuals may make judgement mistakes, including misunderstanding instructions. Second, managers may override effective internal control systems; that is, override prescribed policies or procedures, such as increasing revenue to cover up falls in profits, enhancing reported profit to meet analysts' forecasts or covering up breaches of bank borrowing conditions. Third, collusion between two or more individuals can result in control failures. Finally, internal controls cost money, and there are always cost-versus-benefit discussions in implementing and checking on controls; for example, you would not spend $1 million a year protecting inventory that was worth $10 000. Finally, internal control should be adaptable to the size and structure of the organisation. The internal controls you would expect at Woolworths will be very different from those you see at your local family-run corner shop.

Internal control covers three objectives:

- effectiveness and efficiency of operations that relate to the organisation's basic business objectives and safeguarding of resources
- reliability of internal and external financial and non-financial reporting, including published financial statements, such as extracts of financial data from these statements (e.g. earnings announcements)
- compliance with the laws and regulations to which the organisation is subject.

Based on the above three objectives, internal controls can be considered to be effective for each of the three categories if management and the board of directors have reasonable assurance that:

- they understand the extent to which the organisation's objectives are being achieved; for example, particular returns on investment
- financial statements are being prepared reliably
- there is compliance with relevant laws and regulations.

Internal control consists of the following five interrelated components:

1. *Control environment:* The control environment incorporates all the written policies and procedures of the organisation as well as the unwritten practices of those within an organisation. The control environment sets the tone of an organisation, influencing the control consciousness of its board, management and employees. It is the foundation for all other components of internal control, providing discipline and structure. Control environment factors include the integrity, ethical values and competence of the organisation's employees; management's philosophy and operating style; the way management assigns authority and responsibility, and organises and develops its people; and the attention and direction provided by the board of directors.
2. *Risk assessment:* Every organisation faces a variety of risks from external and internal sources that must be assessed. A precondition to risk assessment is establishment of objectives, linked at different levels and internally consistent. Risk assessment is the identification and analysis of relevant risks that may adversely impact the achievement of the organisation's objectives. This forms a basis for determining how the risks should be managed. Because economic, industry, regulatory and operating conditions will continue to change, mechanisms are needed to identify and deal with the special risks associated with change, both internal and external.
3. *Control activities:* Control activities are the policies and procedures that help to ensure management directives are carried out. They help to ensure that necessary actions are taken to address risks to achievement of the entity's objectives. Control activities occur throughout the organisation, at all levels and in all functions. They may be preventative or detective in nature and include both manual and automated processes. They include a range of activities as diverse as approvals, authorisations, verifications, reconciliations, reviews of operating performance, security of assets and segregation of duties.
4. *Information and communication:* Pertinent information must be identified, captured and communicated in a form and a timeframe that enable employees to carry out their responsibilities. Information systems produce reports containing operational, financial and compliance-related information, which make it possible to run and control the business. They deal not only with internally generated data but also information about external events, activities and conditions necessary to informed business decision-making and external reporting. Effective communication also must occur in a broader sense, flowing down, across and up the organisation. All personnel must receive a clear message from top management that control responsibilities must be taken seriously. They must understand their own role in the internal control system, as well as how individual activities relate to the work of others. They must have a means of communicating significant information upstream. There also needs to be effective communication with external parties, such as customers, suppliers, regulators and shareholders.
5. *Monitoring:* Internal control systems need to be monitored – a process that assesses the quality of the system's performance over time. This is accomplished through ongoing monitoring activities, separate evaluations or a combination of the two. Ongoing monitoring occurs in the course of operations. It includes regular management and supervisory activities, and other actions personnel take in performing their duties. The scope and frequency of separate evaluations will depend primarily on an assessment of risks and the effectiveness of ongoing monitoring procedures. Internal control deficiencies should be reported upstream, with serious matters reported to top management and the board (adapted from Committee of Sponsoring Organizations of the Treadway Commission [COSO] 2013, *The Internal Control – Integrated Framework*).

All the above five components are relevant to each of our previously stated three objectives. For each objective (such as reliability of financial reporting), all five components must be present and function effectively to demonstrate that internal control over the reliability of financial reporting is effective.

Control activities

While all of the above components of internal control are important, for illustration here we provide four examples of control activities:

- *Top-level reviews:* Managers carry out reviews of actual performance compared to budgets, forecasts and prior period results. They assess which targets are being achieved. Management actions taken to analyse progress made and to follow up on reporting actions are examples of control activities.
- *Information processing:* Controls are used to check accuracy, completeness and correct authorisation of transactions. Data entered is subject to edit checks, such as no payroll amount above $x. There is matching to approved control files (e.g. a customer's order is accepted only after reference to an approved customer file) and a credit limit. Numerical sequences of transactions are accounted for, such as a missing invoice number. File totals are compared and reconciled with control accounts (e.g. the accounts receivable general ledger must reconcile with the accounts receivable subsidiary ledger).
- *Separate record-keeping from handling assets:* An effective way of providing security over assets like cash, accounts receivable and inventories is to have records showing how much of each asset is supposed to be on hand at any time. However, if the person who physically handles the asset (say, cash) also keeps the records of it, errors or fraud can be hidden by altering the records. Accountants call the separation of record-keeping and handling assets 'segregation of duties'. One person collects the cash while another person maintains the cash records. If one or the other makes a mistake, a difference will arise between the count of cash on hand and what the record shows should be on hand. This difference can then be investigated and the cause corrected. Segregation of duties can also be used within the record-keeping system. For example, one person can maintain the general ledger, with the total accounts receivable account, and another can maintain the accounts receivable subsidiary ledger, with the detailed list of customer accounts. It is hard for smaller organisations with few employees to spread the jobs around enough to segregate all the important tasks, but it should be done as much as possible. If segregation of duties doesn't exist, the boss needs to keep a close eye on important assets, such as cash and inventories. Another way this can be achieved is by rotating duties between staff. This has the added benefit of improving the skills of the staff members involved as well as providing opportunities for errors to be discovered.
- *Physically protect sensitive assets:* This control method is rather obvious, but is easy to overlook. Sensitive assets, such as cash, inventories and computer equipment, should be behind lock and key, kept in particular storage areas, or otherwise protected from unauthorised or casual access. Many organisations are sloppy about access to their inventories, in particular, and sometimes protection is a good idea for assets you might not think of. For example, many manufacturers produce scrap as a by-product, and the scrap can be very valuable. One manufacturer put its scrap in the backyard and found out later that thousands of dollars' worth had been lifted over the back fence and sold on the scrap market. Examples of physical controls include safes, locked storage areas, security guards and employee identification cards. Electronic devices are being used with increased frequency; for example, most university libraries have electronically coded their books so that an alarm goes off if anyone tries to remove them without first taking them to the front desk to have them checked out.

There is much more to internal control than the points listed above. Designing effective control systems requires an understanding of management's objectives; a sensitivity to the cost–benefit balance needed between tight, but costly, controls and loose, but cheap, controls; knowledge of computer systems and other record-keeping methods; and considerable insight into the subtleties of human motivation and behaviour. It also requires some common sense: complete protection is not possible, and tying the organisation up in red tape to gain complete protection is not what a good internal control system should do.

Some specific examples of internal control procedures include:

- *independent approval and review:* for example, the authorisation of purchase orders or sales invoices; subsequent review of large and unusual transactions; and approval of transactions over a certain limit (such as giving credit over $100 000)

- *matching independently generated documents:* for example, matching sales invoices and shipping documents to ensure all items shipped are invoiced; matching purchase orders and receiving reports with payment vouchers to ensure goods were actually ordered
- *prenumbering and sequence checking of documents:* for example, prenumbering shipping documents, sales invoices, cheques or vouchers to prevent unauthorised use
- *comparison with independent third-party information:* for example, bank reconciliations of ledger accounts with bank statements (see section 7.3)
- *cancellation of documentation:* for example, physically stamping 'paid' on an invoice presented for payment; defacing spoiled or cancelled cheques to prevent them being used
- *segregation of duties relating to transaction initiation, approval and recording:* for example, the person who handles the physical asset (such as cash inventory) should not also be involved in the recording of the transactions
- *demanding timeliness of operations:* for example, the prompt deposit of cash receipts and depositing cash intact; that is, not removing part of it to pay for small petty cash items.

HOW'S YOUR UNDERSTANDING?

7A Provide an example of each of the following controls:

i information controls

ii separate record-keeping from handling of assets

iii physical protection of sensitive assets.

7.2 Internal control of cash

Cash is the asset that is usually most susceptible to theft because of its liquid, and generally anonymous, nature. LO4

A REAL CASE

Mike, a junior auditor, was assigned to do a surprise count of the cash on hand at a local clothing shop. The cash counted was short compared with what was expected, based on the auditor's projections of cash from sales and bank deposit records. Mike was accused by the shop's accounting clerk of stealing the cash himself while counting it, and he had to call the police and insist that they search him and so demonstrate that he had not stolen it.

It turned out that the accounting clerk had been stealing cash and covering up the thefts by changing the sales records: a classic case of poor internal control through lack of segregation of duties, because the clerk had access to both the cash and the records of the cash. The theft was discovered only because Mike's surprise cash count referred to sales records that the clerk had not yet altered to cover up the shortage. The clerk was fired and promised to make restitution, though it was difficult to tell how much had been taken because sales records had been altered for several years.

The owner of the store was critical of the auditors for 'not preventing the loss', but the auditors showed that they had indeed warned the owner, who had said that it would be too expensive to employ someone else to keep the sales records or control the cash.

For cash sales, a common control is to have locked-in sales registers or other carefully controlled records. Registers (such as you would see at any supermarket) usually print a consecutive number on the locked-in tape for each transaction. The access key is kept by a single person, perhaps a supervisor, who balances cash to sales records. The proceeds that should have been received will be recorded on the tape. The person who keeps the key should count the cash with the cashier, compare it with the sales proceeds, and check that the tape numbers are consecutive from one person's shift to that of the next person. If this sort of system is to work, there has to be no collusion between the people controlling the cash and checking the records – often, collusion is difficult to prevent, so having yet another person provide overall monitoring of the process is a good idea. With the greater use of credit cards and the advent of electronic commerce, there are now many forms of 'cash' needing control attention, including currency, cheques, gift cards, direct payments, credit cards and electronic funds transfers.

A REAL CASE

A large company established a 'petty cash' fund in its front office to be used to pay for small purchases such as office supplies and courier charges. The receptionist was given a fund of $1000, in cash, and when most of that was spent, submitted all the receipts in an envelope and was refunded the cash spent, to bring the petty cash fund back up to $1000. The internal control, therefore, was that, at any time, the receptionist should have cash on hand plus receipts for payments totalling $1000.

What the company did not know was that the receptionist was involved with the delivery driver from the store from which the company got most of its office supplies, and nearly all invoices from that company paid through petty cash were inflated. The company paid far more than it should have for the supplies, but no one knew because the people who got the supplies did not see the invoices, which were kept by the receptionist as evidence of cash payouts. The people who reimbursed the receptionist had not seen the office supplies, so did not know the invoices were inflated.

The thefts and the collusion between the receptionist and the driver were discovered long after the two had moved to another city: someone noticed that office supplies costs were lower than they used to be! The company has no good idea of how much was stolen, but it believes that it was many thousands of dollars over the years.

Two points should be noted about this fraud. First, overall monitoring of petty cash summaries by a supervisor would probably have picked this up. Second, these are not the types of expenses that should be paid for out of petty cash.

Another way to control cash from sales is to have multi-copied, prenumbered sales invoices. The invoice copies are then removed by one person. For cash sales, the amounts are cross-checked against cash records, and for credit sales, the amounts are cross-checked against accounts receivable records. Any gaps in the numerical continuity of the invoices are investigated. For this control to work, supervisors must ensure that an invoice is prepared for each sales transaction. An additional control is to regularly check inventory and compare it with the sales records. This should prevent, or at least detect, someone selling inventory and pocketing the cash.

Take, for example, the Mayfield Pro Shop, which recorded sales of goods for the month that had a cost price of $10 000 according to the invoice copies in the locked box. If the inventory at the start of the month was worth $25 000 and at the end of the month was worth $14 000 (based on the retail price of the goods), the shop should have sold $11 000 worth of goods. The $1000 difference could be the result of one of the following:

- Someone could have kept $1000 worth of cash from sales and not written any invoices for those sales.
- Someone could have shoplifted $1000 worth of goods.
- The inventory could be inaccurate, or other errors could have occurred.

Thus, there could be other reasons for shortfalls besides theft by employees, but keeping track of cash and inventory together is one method of highlighting the possibilities and investigating them.

Cash collections received through the mail are normally in the form of cheques (but not always). You would be surprised at the variety of ways in which cheques received by a company are made out. These include cheques being made out to cash, to the salesperson who made the sale or to some other company official. Over the years, there have been many examples of staff removing these cheques and banking them in their own accounts. Therefore, let's consider some basic controls to prevent this from happening:

- The mail should be opened by more than one person.
- Cheques should be endorsed with a stamp to prevent the possibility of them being presented to a bank for cashing, or for depositing in some other account.
- A list of cheques received, including amounts and customer names, should be prepared.
- Copies should be distributed to the cashier with the cheques for banking, to the general ledger clerk for posting, and to the accounts receivable section for updating of the subsidiary records.
- People opening the mail should not also have duties related to the cashiers or record-keeping.

These procedures are based on the separation of record-keeping from handling assets. There also needs to be good internal control over the payment of cash. Internal controls are needed to prevent payment for goods or services that have not been received or payment of an invoice more than once. Some internal controls that are used by most larger companies include the following:

- Payments should only be made if documentation has been properly authorised. Before authorising the payment, a staff member should ensure that the relevant invoice is accompanied by some evidence of ordering and receiving the goods or service (such as a copy of the purchase order and goods received advice).
- The cheques should be signed by two staff members who are independent of invoice approval and accounting duties.
- The original invoice should be stamped 'paid' to ensure that it is not subsequently represented for payment.

The examples of cash control problems are presented here to illustrate the fact that accounting records have a variety of uses beyond the preparation of financial statements. The examples are not intended to suggest that employees or customers are crooks. Their intention is to show that management must be prudent in meeting its responsibility of good stewardship in taking care of the owners' assets. Part of that responsibility lies in not putting employees, or others, in such poorly controlled situations that they are tempted to steal. It also involves adequately paying people with the responsibility for cash so that they do not start thinking of themselves as underpaid, and therefore deserving of more money from the company!

A REAL CASE

An armoured truck company had developed a good business picking up cash from supermarkets and other stores and delivering it to banks. The company trusted its employees and had never had problems. Usually the trucks were staffed by two people: a driver and a second person who rode in the back. The two had to sign various forms and, in a sense, they kept an eye on each other so no one got tempted: there was often a million dollars or more in unmarked, untraceable cash in the truck. Sometimes, though, one of the two people was sick, on holidays, or called away on some errand for the company, and there would be just one person to drive the truck and collect the money. On one day like that, there was a particularly large amount of money in the truck, and the driver, apparently on impulse, just took it and departed for foreign parts!

7.3 Bank reconciliations[1]

Many companies will still have many cash receipts and disbursements during a given accounting period. Because of the high frequency of transactions and the potential for error, the accuracy of the cash balance in the general ledger (or your cheque book) should be examined periodically. This process, called a bank LO5 LO6

reconciliation, is based on the cash account and a document called a bank statement, which is received from the bank, usually monthly.

Bank statements versus cash accounts

Businesses and individuals receive monthly bank statements for every bank account they maintain. An example of a bank statement appears in Exhibit 7.1. Bank statements summarise the activity in a bank account and report the ending monthly balance. It is important to understand that although the cash account of a depositor (such as Johnson Manufacturing) is an asset, the depositor's account is carried on the bank's records as a *liability*. Consequently, debits and other debits by the bank *reduce* Johnson's account, while deposits and other credits *increase* the account.

EXHIBIT 7.1

SYDNEY CITY BANK, GEORGE STREET BRANCH

BANK STATEMENT

Johnson Manufacturing Corporation			**Account no.**	
1 Anzac Parade Peakhurst NSW 2210			**0008564201**	**Page no. 1**
				Statement period
				31/7/19–31/8/19
Date	**Particulars**	**Debit $**	**Credit $**	**Current balance ($)**
31/7	Balance			19 507.50 CR
01/8	Deposit		10 031.87	29 539.37 CR
04/8	Cheque no. 630	6 791.45		22 747.92 CR
09/8	Cheque no. 628	675.18		22 072.74 CR
09/8	Cheque no. 629	375.00		21 697.74 CR
10/8	Cheque no. 631	540.20		21 157.54 CR
12/8	Direct deposit from Company A		4 925.75	26 083.29 CR
12/8	Deposit		5 242.70	31 325.99 CR
15/8	Cheque no. 633	728.40		30 597.59 CR
16/8	Cheque no. 632	790.03		29 807.56 CR
18/8	Direct deposit from Company B		4 600.80	34 408.36 CR
19/8	Cheque no. 634	3 574.24		30 834.12 CR
22/8	Cheque no. 635	13 426.40		17 407.72 CR
22/8	Direct debit to Insurance Ltd	10 000.00		7 407.72 CR
25/8	Deposit		9 312.28	16 720.00 CR
26/8	Cheque no. 637	2 470.80		14 249.20 CR
26/8	Cheque no. 639	740.15		13 509.05 CR
29/8	Deposit		7 990.10	21 499.15 CR
31/8	Bank charges	147.90		21 351.25 CR
31/8	Interest		75.00	21 426.25 CR
		Total debits	**Total credits**	
		40 259.75	**42 178.50**	

At the end of a month, the bank statement cash balance and the company's cash records will normally not agree. A major reason for this discrepancy is the timing differences associated with the use of a bank

account. Timing differences result in an item being recorded on the depositor's books or the bank's books, but not both, in a given accounting period. Common examples of timing differences include the following:

- Items reflected on the company's records but not yet reported on the bank statement, such as:
  - deposits in transit: receipts entered in a firm's accounts but not yet processed by the bank (e.g. a company could record certain cheques on the last day of the month, but not take the deposits to the bank until the next day)
  - outstanding cheques and payments: payments which have been processed or cheques written by a business but not yet presented to the bank. Outstanding payments and cheques are determined by comparing those reported on the bank statement against those recorded in the company's records.
- Items reported on the bank statement but not yet entered in the company's records, such as:
  - dishonoured customer payments or non-sufficient funds (NSF) cheques: customer payments or cheques deposited but returned because of lack of funds; these are reported on the bank statement via a debit memo notation, because the bank has reduced the depositor's account
  - bank charges
  - electronic funds transfer transactions, in particular receipts from customers may not have been recorded in the company's records
  - interest earned on the account.

In addition to timing differences, errors may cause a discrepancy between the bank statement balance and company accounting records. Errors can be made by either the company or the bank and must be corrected as quickly as possible.

For many companies there has been an increase in direct debits (payments direct from a company's bank account to another individual or company's bank account) or direct credits (receipt direct from another individual or a company to a company's bank account). The use of direct transfers from one account to another eliminates some of the above difficulties (in relation to timing), but care should be taken to ensure that these transactions are recorded in the company's records, as well as being alert to errors caused by transfers made to or from incorrect accounts.

The reconciliation process

Several different types of reconciliations can be prepared. One commonly encountered form involves determining the amount of cash a company has control over and the reports on its end-of-period balance sheet. An example appears in Exhibit 7.2.

EXHIBIT 7.2

SYDNEY CITY BANK

BANK RECONCILIATION

			$
Ending balance per bank statement			xxx
Add:	Receipts/increases entered on company records but not reported on the bank statement		xxx
Deduct:	Disbursements/decreases entered on company records but not reported on the bank statement		xxx
Adjusted cash balance: bank			xxx
Ending balance per company records		These amounts must agree	xxx
Add:	Receipts/increases reported on the bank statement but not entered on company records		xxx
Deduct:	Disbursements/decreases reported on the bank statement but not entered on company records		xxx
Adjusted cash balance: company records			xxx

The exhibit demonstrates the purpose of a reconciliation; that is, we strive to isolate specific items that cause a difference between the depositor's records and the bank statement balance. The accountant considers these items and adjusts one cash balance or the other to bring both balances into agreement.

If the balances do not agree and the reconciling items are deemed correct, there is an excellent chance that a record-keeping error has been made. Errors must be identified, then added or subtracted on the reconciliation to arrive at the corrected cash balance. For example, if a cheque written by a firm for $94.50 was incorrectly entered into the accounting records as $49.50, the accounting records would be overstated by $45.00 ($94.50 – $49.50). This amount ($45) should therefore be deducted from the ending cash balance per company records, since the company's books are in error. The bank, of course, will deduct the correct amount of the transaction ($94.50) when the cheque is received for payment. The reconciliation, then, not only highlights timing differences but also identifies errors made by either the bank or the depositor.

Most bank reconciliations contain adjustments to both the ending cash balance per bank statement and the ending balance per company records. After the reconciliation is completed, *general journal entries must be prepared for adjustments made to company records*. These adjustments are necessary to update the cash account (and others) in relation to the correction of company errors and information already processed by the bank. It is important to note that no journal entries are needed for adjustments made to the ending bank statement balance. These adjustments reflect items that have already been recorded in a company's accounts; thus, no further updating is necessary.

Here is an example. Exhibit 7.3 contains summarised data and the bank reconciliation of Johnson Manufacturing Corporation for the month ended 31 August 2019. It will help if you refer to Johnson's bank statement (in Exhibit 7.1), which serves as the source for much of the information presented.

The reconciliation reveals one increase to the bank statement cash balance: the deposit that was recorded prior to month-end but awaiting deposit. Johnson had control over each of these items as of 31 August, and they should be included in the ending cash balance. The decrease in the bank statement cash balance was caused by cheques Johnson had written that had not yet cleared the bank. The bank will receive these cheques shortly, and the funds will then be deducted from the company's account.

The increase to company records arose from the direct deposit received but not recorded and interest, both of which appear on the bank statement. These funds have now been deposited in Johnson's bank account and must therefore be entered in the company's records. The deduction for the bank charges is on the bank statement but not as yet in the company's ledger. The error in recording cheque no. 628 was discovered during the reconciliation. Because the bank deducted the correct amount of the cheque, an adjustment to Johnson's records is required to bring them into agreement with those of the bank.

Note that, as the company is owed money, it has an asset; therefore, it will show up as a debit balance in the bank reconciliation ($21 983.25 DR). However, as the bank owes money, it has a liability; therefore, the amount will show up as a credit balance in the bank records ($21 983.25 CR).

On completion of the reconciliation, journal entries are needed for all the items that affect company records. The following entries will be made on 31 August.

	DR $	CR $
Cash	4 675.80	
Accounts receivable – Company B		4 600.80
Interest revenue		75.00
Bank charges	147.90	
Cash		147.90
Accounts payable	18.00	
Cash		18.00

EXHIBIT 7.3

JOHNSON MANUFACTURING CORPORATION

DATA AND BANK RECONCILIATION

Data

a	31 August cash balance per bank statement, $21 426.25.
b	31 August cash balance per company records, $17 473.35.
c	Bank charges of $147.90
d	A direct deposit from Company B for $4600.80 was received but has not been recorded in the company's records.
e	A deposit for $1850.00 recorded by the company on 31 August did not appear on the bank statement.
f	Interest of $75.00 received.
g	The following cheques written by Johnson were outstanding at the end of the month: No. 638 $410.00 No. 640 $320.00 No. 641 $240.00 No. 642 $323.00
h	Cheque no. 628, written for $675.18, was erroneously entered as $657.18 in the company's books. The cheque involved a payment to a supplier on account.

Bank reconciliation

31 August 2019

	$	$
Ending balance per bank statement		21 426.25 CR
Add: Outstanding deposit		1 850.00
		23 276.25
Deduct: Outstanding cheques		
No. 638	410.00	
No. 640	320.00	
No. 641	240.00	
No. 642	323.00	1 293.00
Adjusted cash balance: bank statement		21 983.25 CR
Ending balance per company records		17 473.35 DR
Add: Direct deposit not previously recorded	4 600.80	
Interest	75.00	4 675.80
		22 149.15
Deduct: Bank charges	147.90	
Error in recording cheque no. 628	18.00	165.90
Adjusted cash balance: company record		21 983.25 DR

The first entry reflects the increase in cash caused by the direct credit and interest. The second entry shows bank charges for $147.90. Finally, the error in recording cheque no. 628 was found to involve a payment on account; thus, accounts payable must be debited. These entries allow Johnson's records to reflect the true amount of cash held by the firm.

HOW'S YOUR UNDERSTANDING?

7B On 30 June, the bank account for Holmes Traders showed a debit balance of $13 418 and the bank statement showed a credit balance of $20 208. A comparison of the two sets of records disclosed:

- that there was a bank charge of $10
- that a direct credit from Emma and Tim Limited had been received for $1000 but was not included in the company's records
- that the date of a deposit of $2450 was shown by Holmes Traders as 30 June, whereas the bank did not record the deposit until 1 July
- unpresented cheques totalling $8250.

Prepare a bank reconciliation statement at 30 June.

7.4 Performing a bank reconciliation from information in cash journals

LO6 In section 7.3, you were given lists of outstanding deposits, outstanding cheques and errors in bank charges, etc. In this section we will show you how to find this information by comparing the content of the bank statement and the organisation's cash records (cash receipts journal and cash payments journal). Note that a cash receipts journal (CRJ) lists all payments received, and a cash payments journal (CPJ) records all cheques issued in cheque number order and direct payments made in payment number order. More detailed information on the functioning of cash receipts journal and cash payments journal is provided in Chapter 8 (section 8.7).

The following steps should be undertaken to complete the bank reconciliation statement.[2]

Step 1

- Go through last month's bank reconciliation statement, ticking off any amounts that were outstanding last month (such as unpresented cheques and outstanding deposits) and that appear on this month's bank statement.
- Go through the bank statement and tick off items appearing both there and in the cash journals (tick them off in both places).
- Errors: if you see any cheques or deposits that are recorded incorrectly by the business or the bank (e.g. a transposition error), deal with these as follows:
  - If the bank has made a mistake, inform the bank of its error and list it in the bank reconciliation.
  - If the business has made a mistake, correct the relevant cash journal (CPJ or CRJ).

Step 2

- Go through the bank statements to see what amounts remain unticked. These unticked amounts may be dishonoured cheques, interest or cash transactions made directly through the bank and not yet recorded

in the books. These should be entered into the appropriate CRJ or CPJ. After entering them, tick them in the journals and the bank statements.

- Go through the cash journals to see if there are any unticked amounts in the CRJ and CPJ. These will represent outstanding deposits and outstanding (unpresented) cheques, respectively.

Step 3

- If the CRJ and the CPJ have not yet been totalled and posted to the bank ledger account, this should be done.

Step 4

- Prepare a bank reconciliation statement in a form similar to that shown in Exhibit 7.2.

Illustrative example

The bank reconciliation prepared by Onslow Ltd, as at 31 March 2019, showed a deposit in transit of $610 and the following outstanding cheques: no. 204 for $615 and no. 221 for $90. The balance – as per the cash at bank account in the general ledger of Onslow Ltd at 31 March 2019 – was $4667 DR.

Bank statement

Date		Particulars	Debit $	Credit $	Balance $
2019		Balance			4 762 CR
April	1	DC – Martin		610	5 372 CR
	2	DC – Hughes		115	5 487 CR
	3	222	56		5 431 CR
	3	DD – Car lease	300		5 131 CR
	3	Deposit		630	5 761 CR
	6	204	615		5 146 CR
	6	Deposit		220	5 366 CR
	10	DC – Khalifa		105	5 471 CR
	10	224	196		5 275 CR
	13	Deposit		832	6 107 CR
	15	DC – Jane		50	6 157 CR
	17	Deposit		107	6 264 CR
	17	226	852		5 412 CR
	17	NSF	312		5 100 CR
	20	225	846		4 254 CR
	22	DC – Michael		56	4 310 CR
	24	SC	24		4 286 CR
	27	227	100		4 186 CR
	29	228	409		3 777 CR

NSF non-sufficient funds/dishonoured cheque — SC service charge

DC Direct credit — DD Direct debit

From the cash receipts journal		From the cash payments journal		
Date	Amount	Date	Cheque no.	Amount
April	$	April		$
2	115	3	222	56
3	630	3	223	124
6	220	10	224	169
10	105	14	225	846
13	832	17	226	852
17	107	23	227	100
21	56	28	228	409
30	403	29	229	900
Subtotal	2 468	29	230	556
		Subtotal		4 012

Notice: For any errors assume the bank's records are correct.

- Take the above information and tick off, on the bank statement, any outstanding cheques or outstanding deposits from the March bank reconciliation. Note that the $610 outstanding deposit is included on the bank statement on 1 April, and the unpresented cheque no. 221 is still unpresented.
- Compare the amounts on the bank statement with those in the cash journal. The unticked amounts on the bank statements refer to a direct credit from Jane of $50, a dishonoured cheque for $312 (i.e. the person who sent the cheque to Onslow did not have sufficient funds in the account), bank fees of $24 and direct debit for a car lease of $300. In addition, there is an error of $27 for cheque no. 224 to Energy Australia.

  As a result of the above, the cash journals would be adjusted as follows:

Cash receipts journals	
Subtotal	2 468
Direct credit – Jane	50
NSF/Dishonoured cheque	−312
	$2 206
Cash payments journal	
Subtotal	4 012
Error no. 224	27
Bank charges	24
Direct debit – Car lease	300
	$4 363

These amounts would then be posted to the cash at bank general ledger account.

Cash at bank				
1 April	Opening bal.	4 667	Payments	4 363
	Receipts	2 206		
		6 873		
30 April	Closing bal.	$2 510		

- The unticked amounts in the cash receipts journal and the cash payments journal represent outstanding deposits (deposit in transit) and outstanding cheques (unpresented cheques).
- These outstanding deposits would be added to the balance (as per the bank statement) and the unpresented cheques would be deducted.

Bank reconciliation statement for Onslow Ltd at 30 April 2019			
Balance per bank statement		$3 777	CR
add: Outstanding deposit		403	
		4 180	
less: Unpresented cheques			
no. 221	90		
no. 223	124		
no. 229	900		
no. 230	556	1 670	
Balance per cash at bank ledger account		$2 510	DR

Note: the unpresented cheques include no. 221, which was outstanding in the previous bank reconciliation.

7.5 Petty cash[3]

LO7

Another element in the control of cash is a petty cash system. Under this system, a fund is established for use in making small payments, especially those that are impractical or uneconomical to make by cheque. Examples of such payments include those for minor items like taxi fares and other miscellaneous office needs.

A petty cash fund is created by cashing a cheque drawn on the company's regular cheque account. The proceeds from the cheque, which are sufficient to cover payments for a short period of time (such as several weeks), are then placed in a petty cash box that is controlled by an individual known as the fund custodian. The custodian supervises the fund and is held accountable for any discrepancies. Assuming the petty cash fund is established at $200, the necessary journal entry follows. The petty cash account is an asset.

	DR $	CR $
Petty cash	200	
Cash		200
To establish petty cash fund		

Making disbursements from the fund

As payments are made from the fund, the custodian completes a form known as a petty cash voucher. Each voucher indicates the amount paid, the purpose of the expenditure, the date of the expenditure and the individual receiving the money. Along with invoices and receipts, petty cash vouchers are used as evidence of disbursements.

The completed voucher is placed in the petty cash box by the custodian. Although a payment has been made, no journal entry is recorded at this time. Preparing a formal journal entry for every disbursement

would give rise to considerable bookkeeping work and posting, all for relatively small amounts. At all times, the following relationship should be true:

	$
Cash remaining in the fund	XXX
Plus: Petty cash vouchers	XXX
Original amount of the fund	200

Replenishing the fund

The petty cash fund is replenished when the amount of cash in the fund becomes low. For instance, assume that a count of the petty cash on hand totalled $32.40. Vouchers revealed that the following expenses had been incurred: postage $27.50, office supplies $50.80, transportation $73.40 and coffee $15.90. The journal entry to record replenishment is as follows:

	DR $	CR $
Postage expense	27.50	
Office supplies expense	50.80	
Transportation expense	73.40	
Miscellaneous expense	15.90	
Cash		167.60
To replenish petty cash fund		

Notice that the credit is to the cash account and not petty cash. Although disbursements have been made from the petty cash box, the fund is restocked by writing a cheque for $167.60 on the company's regular cheque account. Thus, payment (and replenishment) is really from cash.

In addition to being restocked when the fund is low, petty cash is also replenished at the end of each accounting period. This procedure is necessary because no formal journal entries have been recorded for individual fund disbursements. Replenishment requires a journal entry, thereby ensuring that expenditures are charged to the period in which they arose.

Errors in the petty cash fund

Occasionally, the sum of the petty cash vouchers and the cash in the fund will not equal the original fund balance. This discrepancy usually occurs because of errors made by the fund custodian – some being in the company's favour and some not. In such cases, the cash short and over account is employed. Cash short and over is debited to record a shortage or credited to recognise an overage at the time the fund is replenished. The shortage is classified as a miscellaneous expense, and the overage as a miscellaneous revenue item.

7.6 Disclosure of internal control in annual reports

LO7 Australian companies that are listed with the Australian Securities Exchange (ASX) are now required to include a section in their annual reports on corporate governance. A number of companies include a description of their internal control systems in this section. Examples from the annual reports of BHP Billiton Limited and Tabcorp Holdings Limited are given in Exhibits 7.4 and 7.5.

EXHIBIT 7.4

BHP BILLITON LIMITED

EXTRACT FROM 2017 ANNUAL REPORT

Effectiveness of systems of internal control and risk management

In delegating authority to the CEO, the Board has established CEO limits set out in the Board Governance Document. Limits on the CEO's authority require the CEO to ensure that there is a system of control in place for identifying and managing risk in BHP.

Through the RAC, the Directors review the systems that have been established for this purpose and regularly review their effectiveness. These reviews include assessing whether processes continue to meet evolving external governance requirements.

The RAC oversees and reviews the internal controls and risk management systems. In undertaking this role, the RAC reviews the following:

- procedures for identifying business and operational risks and controlling their financial impact on BHP and the operational effectiveness of the policies and procedures related to risk and control;
- budgeting and forecasting systems, financial reporting systems and controls;
- policies and practices put in place by the CEO for detecting, reporting and preventing fraud and serious breaches of business conduct and whistle-blowing procedures;
- procedures for ensuring compliance with relevant regulatory and legal requirements;
- arrangements for protecting intellectual property and other non-physical assets;
- operational effectiveness of the Business RAC structures;
- overseeing the adequacy of the internal controls and allocation of responsibilities for monitoring internal financial controls.

BHP Billiton Ltd, *Annual Report 2017*, pp. 114–115
(https://www.bhp.com/-/media/documents/investors/annual-reports/2017/bhpannualreport2017.pdf).

EXHIBIT 7.5

TABCORP HOLDINGS LIMITED

EXTRACT FROM 2017 CORPORATE GOVERNANCE STATEMENT

4.4. Internal control framework

The Group's strategic plan … and a detailed budget are prepared annually and subject to the approval of the Board. Forecasts for the Group and each of the operating business units are regularly updated and reported to the Board throughout the year to enable Directors to monitor performance against the annual budget.

The Group has detailed procedural guidelines for the approval of capital expenditure including annual budgeting, review and approval of individual proposals and specific levels of authority between the Board, the Managing Director and Chief Executive Officer and other levels of management.

Processes for the investment of surplus cash, management of debt and currency, and interest rate risk management have been approved by the Board and are the subject of ongoing reporting to the Board. Tabcorp enters into interest rate swaps and cross currency swaps to hedge interest rate and foreign exchange risk on debt. The Group Treasury department is responsible for managing the Group's finance facilities and interest rate, credit, liquidity and currency risks in line with policies set by the Board.

The Group's internal control structure is reviewed and approved by the Board Audit, Risk and Compliance Committee. This includes the role performed by the Group's internal audit, risk management and compliance functions.

The role of the Group's internal audit function is to provide the Board and management with independent and objective assurance on the effectiveness of the Group's governance, risk management and internal control processes. The function is resourced by Tabcorp employees and supplemented by relevant industry experts, and is independent of the external auditor. Internal audit reports are regularly submitted to the Chairman of the Audit, Risk and Compliance Committee, Chief Financial Officer, the Audit, Risk and Compliance Committee and, where appropriate, to the Board. The Audit, Risk and Compliance Committee approves the internal audit plan annually. Tabcorp's General Manager Internal Audit reports to the Chief Financial Officer, and is accountable to the Chairman of the Audit, Risk and Compliance Committee regarding the Group's internal audit functions.

Tabcorp Holdings Limited, *Corporate Governance Statement 2017*, p. 21
(https://www.tabcorp.com.au/TabCorp/media/TabCorp/Media%20Releases/Tabcorp-Corporate-Governance-Statement-2017.pdf).

Note some common aspects of these descriptions:

- The board of directors has responsibility for the internal control system.
- The role of the audit committee in the evaluation of internal controls is noted.
- Operating budgets are used to monitor performance.
- Internal audits are an important part of the internal control system.
- Controls are important in certain key areas including treasury.
- There are clearly defined guidelines for capital investment.

7.7 Managers and internal control

LO7 As noted earlier, internal control is the responsibility of management. Internal controls are fundamental to the accurate recording of transactions and reliable financial reports.

A system of internal control should minimise and, where possible, eliminate errors and irregularities. Errors are unintentional mistakes whereas irregularities are intentional. Even with a strong system of internal control, errors can still occur, but the system should detect these errors. Irregularities should also be detected, except where there is collusion (two or more employees working together to cover up the irregularities) or management override (management using its power to instruct employees to ignore a particular control). Thus, no system of internal control can eliminate, with certainty, all errors and irregularities, but it can decrease substantially the possibility of them occurring and increase the chances of detecting them.

An important question for management is how much internal control is necessary. As each additional control is added, the risk of error and irregularity decreases, but there is a cost for implementing the controls. Therefore, a cost–benefit analysis is required. However, this is difficult to do because the benefits of having the controls are often difficult to quantify. It becomes a matter of judgement on the part of management as its estimate of the potential losses from errors and irregularities is compared with the cost of additional controls.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Explain the nature and purpose of internal control to a manager

A friend, Janet, has accepted a job as the general manager of a local company. During a meeting you attended, an accountant mentioned to Janet that she would be responsible for internal control within the company. When the accountant left the room, Janet turned to you and asked, 'What is internal control and why should I care about it?' Answer Janet's question, using clear language without technical jargon.

PRACTICE PROBLEM B

Prepare a bank reconciliation statement and explain the need for cash records

The bank reconciliation made by Johnson Ltd on 31 August 2019 showed a deposit in transit of $570 and two outstanding cheques: no. 597 for $260 and no. 603 for $180. The adjusted balance per books on 31 August was $7980 debit.

The bank statement shown below is available for September. A list of deposits made and cheques written during September is shown here:

Deposits made		$	Cheques written		$
Sept.	1	350	No.	607	450
	4	420		608	325
	8	296		609	192
	12	580		610	285
	16	404		611	410
	24	535		612	242
	29	256		613	214
	30	430		614	453
		3 271		615	357
				616	262
					3 190

The cash at bank account balance on 30 September was $8061. In reviewing the cheques, the bookkeeper discovered that cheque no. 610, written for $258 for a repairs expense, was recorded in the cash payments journal as $285. The 'return' item for $335, which Johnson deposited on 24 September, was a payment on account from customer D. Lewis (dishonoured cheque).

Johnson Ltd Newtown, NSW		Bank statement DR $	CR $	30 September 2019 $
31 Aug.	Brought forward			7 850 CR
1 Sept.	Cash/cheques		570	8 420 CR
	603	180		8 240 CR
2 Sept.	Cash/cheques		350	8 590 CR
5 Sept.	Cash/cheques		420	9 010 CR
	608	325		8 685 CR
	607	450		8 235 CR
8 Sept.	610	258		7 977 CR
9 Sept.	609	192		7 785 CR
	Cash/cheques		296	8 081 CR
15 Sept.	Cash/cheques		580	8 661 CR
	612	242		8 419 CR
17 Sept.	Cash/cheques		404	8 823 CR
	611	410		8 413 CR
25 Sept.	614	453		7 960 CR
	Cash/cheques		535	8 495 CR
30 Sept.	Cash/cheques		256	8 751 CR
	Return	335		8 416 CR
	Bank fee	15		8 401 CR

1 Prepare a bank reconciliation statement for Johnson Ltd at 30 September.
2 Prepare the necessary general journal entries to bring the cash at bank account up to date as at 30 September 2019.
3 Could a business dispense with its own cash records and rely entirely on bank statements?

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 What is internal control?
2 List the main components of internal control.
3 Why is internal control over cash so critical?
4 What types of organisations need strong internal controls over inventory?
5 What is segregation of duties? Provide three examples.
6 List four important internal controls over cash.
7 Provide three specific internal control procedures for:
   a cash
   b inventory
   c accounts receivable.
8 What is the purpose of the bank reconciliation statement?

9 If a company is owed $100 000 by the bank, why would it appear as a DR in the company's ledger accounts and a CR on the bank statement?

10 Why do outstanding (unpresented) cheques occur at month-end?

11 How does a petty cash system act as an internal control?

12 'No system of internal control is perfect. There are always inherent limitations.' Discuss.

13 What does the concept of 'reasonable assurance' mean with respect to an internal control system?

14 Why it is important to perform cost–benefit analysis when designing an internal control system?

15 Outline the importance of each of the following in an internal control system for cash:
- a that all cash should be banked daily, intact
- b the bank reconciliation statement
- c the segregation of duties for the mail opener, the cashier, the general ledger-keeper and the receivable ledger clerk
- d the receivable ledger clerk rotates jobs with the cashier each six months.

16 A school friend who has joined a new company tells you that the company has many controls over cash. He asks you to explain why the following controls exist.
- a Mail opening is carried out by two individuals. They won't allow the cashier or the accounts receivable clerk to open the mail, although they have spare time during the morning.
- b Mail opening is time-consuming because the company requires that all cheques be crossed 'not negotiable' and recorded on a listing of all cheques received.
- c Because the cashier also has free time late in the afternoon, your friend suggested that the cashier receive the bank-validated deposit slips, but the company insisted that the slips be returned to someone else for checking.
- d The company does have small expenses, so it would be useful to use some of the daily cash receipts to pay them. Instead, they are forced to bank the receipts intact and set up a petty cash system to pay for the small expenses.
- e The cashier takes flexitime every Wednesday afternoon, as he likes to attend the local race meeting. He asked management about not banking on Wednesday, keeping the Wednesday receipts in the safe, then combining them with Thursday's receipts, but the company would not give permission for this.

17 The bank reconciliation of XYZ Ltd reveals a significant bank error in XYZ's favour that will probably go undetected. As the accountant, you contact the general manager, who suggests that the bank has probably made errors in its favour in the past and that the bank should not be informed of its error. What should you do?

18 With respect to the internal control over cash, provide an example of each of the following:
- a independent checks and reviews
- b approval of transactions
- c matching documents
- d prenumbering and sequence checking
- e reconciliation to outside information
- f access restrictions.

19 Discuss the following statements:
- a Internal control is the responsibility of the accountants in an organisation.
- b A properly designed system of internal control over cash should prevent employee theft of cash.

20 Discuss the relationship between the corporate manager's responsibility for internal control and his or her responsibility to earn profit for the shareholders.

PROBLEMS

PROBLEM 7.1

Describe weaknesses in internal control

The following incidents took place in the DG Company:

1 Fred, the mail opener, converted a cheque payable to the DG Company for his personal use. When he was doing the bank reconciliation, Fred treated the missing amount as a deposit in transit.

2 Kylie, the cashier, pocketed cash received over the counter from customers paying their accounts. She then wrote off the receivables as uncollectable.
3 Joe wrote out a company cheque to pay for construction done at his home.
4 Bill collects the cash from vending machines and keeps about 20 per cent for himself.
5 Liz inflates the hours she works on the time sheets.

For each incident, describe the internal control weakness that made the incident possible and describe procedures that would remove each weakness.

PROBLEM 7.2

Identify violated components of internal control

In each of the following cases, what component of good internal control is being violated (if any)? (See section 7.1 if you can't remember the components.)

1 Tough Ltd pays all its employees minimum wages and does not have pleasant working conditions.
2 Fred is a very conscientious employee who does such a good job that he does pretty much all of Whisp Ltd's office tasks.
3 Garand Ltd has a sophisticated internal control system that prints out various reports on discrepancies, which company management asks the accounting clerks to investigate and resolve.
4 John runs a small warehousing business. He's proud of saving money on accounting. For example, the reason he gives for not keeping track of purchases and shipments of goods is that he can 'look at the shelves and see if everything is all right'.
5 Wildwood Restaurant is proud of its 'family approach' to its employees, taking great care to make them feel important and trusted. Everyone has a key to the restaurant and several employees can often be found there after hours, helping to clean and prepare for the next day.
6 Hadlee Corp's founder, getting on in years, has turned the CEO's job over to his playboy son who is quite interested in horse racing and turns up at the office only occasionally.

PROBLEM 7.3

Internal control and fraud

Consider the following two cases of fraud.

1 There have been recent reported incidents of attempted fraud on a variety of organisations. The fraud involves sending invoices for services or products not ordered or requested by the organisation. They tend to be for advertising or listing in a publication. The invoices can look very credible.
2 Over a four-year period, a payroll clerk of a large supermarket chain stole more than $2.5 million from her employer. She supervised a safe containing a $20 000 cash float that covered staff wages, cash advances and petty cash. As the float ran low she ordered more cash, but falsified the accounts to hide the money she took for herself.

Outline the internal controls that would be likely to prevent, or at least detect, the above frauds at an earlier date.

PROBLEM 7.4

Recommend improvements in internal control of cash in a church

You have been appointed to the finance committee of your local church. The collections for Sunday services are taken up by a team of ushers. At the end of each service the head usher counts the cash, then puts the total of the cash count and the cash in the safe. On Mondays, the church treasurer, who has been doing the job for the last 15 years, re-counts the cash, deducts a float to pay for incidental church expenses during the week, deposits the balance and records it in the church records. The church treasurer takes frequent overseas trips, so when he is away the takings accumulate in the safe until he returns.

Recommend improvements in control procedures.

PROBLEM 7.5

Explain cash control procedures and identify internal control weaknesses

1 There are a number of procedures that a firm may employ to safeguard cash. These procedures are known as cash control procedures. List five examples of cash control procedures and explain their function. Follow the example given below:

Cash control procedure	Function
Physical safeguards over cash, such as a safe	To help protect the unbanked cash overnight until it can be banked the next day

2 Identify the internal control weaknesses in the following two cases and suggest a way of improving each situation.

a A supplier was paid twice for the same shipment. One payment was made upon receipt of the invoice and the second payment upon receipt of the monthly statement. The first payment was not listed on the statement, as it arrived after the statement date.

b The cashier pocketed cash he received over the counter from a few customers who had paid their accounts. The cashier then wrote the accounts receivable off as uncollectable.

PROBLEM 7.6

Identify objectives of internal control and explain how theft may be prevented

Ekumbaba Ltd is a small wholesaler of model aeroplanes. It only has a few employees. The owner of the business, who is also the manager, makes daily deposits of customers' cheques into the firm's bank account and writes all cheques issued by the firm. He also reconciles the monthly statement with the books when the bank statement is received in the mail.

The assistant to the owner renders secretarial services, which include taking dictation, typing letters and processing all mail – both incoming and outgoing. Each day, the assistant gives the owner the cheques received from customers. The vouchers attached to the cheques are separated by the assistant and sent to the bookkeeper, along with any other remittance advices that have been enclosed with the cheques.

The bookkeeper makes prompt entries to credit customers' accounts for their remittance. From these accounts, the bookkeeper prepares monthly statements for mailing to customers. Other employees include marketing and warehouse personnel.

It is possible that the owner's assistant takes customers' cheques (depositing them in his or her own account) and destroys the remittance advices and vouchers accompanying these cheques.

How would such a theft be concealed? What precautions could prevent the theft and/or its concealment?

PROBLEM 7.7

Top management responsibility for internal control

The proud owner of Beedle Ltd, a successful high-tech company, is very good at hiring and motivating excellent people to develop and sell products. Delegation is the key, says the owner. 'Hire good people and get out of their way!' As part of this philosophy, the owner hired the best accountants available and turned all the accounting, control and finance functions over to them. The owner concentrates on strategy and business planning, and the company has grown steadily for several years.

Explain to the owner the top management responsibilities that are being neglected here. Given that the company is so successful, does such neglect really matter?

PROBLEM 7.8

Identify missing features of internal control

Read the following description of a sports club. Which features of good internal control seem to be missing? Are any of those features offset by strengths in other areas?

The club earns revenue from members' fees, selling tickets to its games and advertising in its programs. Advertising receipts are mainly by cheque. Other receipts are primarily cash, with an increasing percentage by credit card. Most expenditures are in cash, except for equipment, facility rentals and the three employees' pay,

which are all done by cheque. One employee does some coaching, schedules games and coordinates players and officials. The second employee (who is married to the first) looks after equipment, prepares rental facilities for games, makes travel arrangements and does various miscellaneous jobs. The third employee looks after cash, payroll and accounting. The club's board of directors meets monthly and always has monthly (or annual) financial reports to scrutinise. All three employees are members of the board, and other board members rely on them.

The club has a rented office/storeroom where all employees work most of the time, and where all the club's equipment and various supplies are stored. Cash, cheques and credit card slips are deposited into the bank every two weeks, and payment cheques are issued as needed. Cash expenses are paid out of cash collected from members' fees and ticket sales, so often there is not enough cash to bother depositing. Sometimes there is not enough cash to pay cash expenses, in which case the third employee, who is authorised to sign all cheques, just writes a cheque to 'cash' and cashes it at the nearby bank where the club's bank account is maintained. The board of directors discusses all major trips, equipment purchases and other large expenditures in advance and gives general approvals (or denials) to the employees, who then look after the details.

PROBLEM 7.9

Prepare a report on internal control

The NSW Golf Society operates a museum for the benefit and enjoyment of present and potential golfers. During hours when the museum is open to the public, two clerks, who are positioned at the entrance, collect a $5 admission fee from each non-member patron. Members of golf clubs are permitted to enter free of charge upon presentation of their membership cards.

At the end of each day, one of the clerks delivers the proceeds to the accountant. The accountant counts the cash in the presence of the clerk and places it in a safe. Each Friday afternoon the accountant and one of the clerks deliver all the cash held in the safe to the bank, and receive an authenticated deposit slip, which provides the basis for the weekly entry in the cash receipts journal.

The board of directors of the Golf Society has identified a need to improve the system of internal control over cash admission fees. The board has determined that the cost of installing turnstiles for sales booths or otherwise altering the physical layout of the museum will greatly exceed any benefits that may be derived.

Required:
Identify weaknesses in the existing system of internal control over cash admission fees and recommend an improvement for each of the weaknesses you identify.

PROBLEM 7.10

Prepare journal entries relating to petty cash

A petty cash fund of $100 was established on 1 June 2019 by Green Ltd. Disbursements were made during June as follows:

Voucher no.	Voucher date	Amount $	Details
1	3 June	20.00	Postage
2	6 June	6.00	Fares
3	7 June	15.50	Staff tea supplies
4	8 June	20.00	Postage
5	10 June	9.50	Fares
6	11 June	4.80	Stationery
7	15 June	20.00	Postage
8	17 June	7.50	Fares
9	24 June	10.00	Taxis
10	28 June	17.00	Staff tea supplies

Reimbursement cheques were drawn on 16 June and 30 June.

Prepare journal entries to record the establishment and replenishment of the fund.

PROBLEM 7.11

Prepare journal entries relating to petty cash

A petty cash fund of $250 was set up by Snodgrass Ltd on 1 August by drawing cheque no. 232. Transactions relating to petty cash in August were as follows:

Date	Voucher no.	Amount $	Details
Aug 1		250.00	Establishment of fund (chq. no. 232)
3	53	25.00	Staff tea supplies
4	54	5.00	Fares
7	55	19.00	Taxi
	56	7.50	Fares
10	57	3.00	Postage
15	59	24.00	Taxi
			Reimbursement of fund (chq. no. 241)
19	60	5.00	Fares
	61	28.00	Taxi
24	62	15.00	Donation to charity
25	63	22.50	Stationery supplies
26	64	110.00	Entertaining clients
31	65	7.00	Fares
			Reimbursement of fund (chq. no. 244)

Prepare journal entries to record the transactions during August.

PROBLEM 7.12

Simple bank reconciliation

Reconcile Henry's month-end bank account balance and, based on your analysis, indicate what corrections you would make to Henry's records:

1 month-end bank balance according to the bank's statement, $8791
2 month-end bank balance according to Henry's records, $7371
3 outstanding cheques (not processed by the bank yet), $1877
4 outstanding deposit (not processed by the bank yet), $250
5 bank charges Henry did not know about, $43
6 someone else's cheque put through Henry's account by the bank, $185
7 interest on the bank balance credited to Henry by the bank but not known to Henry, $21.

PROBLEM 7.13

Explain why bank reconciliation statements are prepared, and then prepare one

1 Why are bank reconciliation statements prepared? Under what circumstances would it be unnecessary to prepare a bank reconciliation statement?
2 You have been supplied with the following information produced by comparing the records of the Swift Company with its most recent bank statement:
   a debit balance as per cash at bank account in ledger as at 30 June, $12 644.40
   b credit balance as per bank statement as at 30 June, $16 860.30
   c deposits not reflected on bank statement, $1880.00
   d unpresented cheques 30 June, $6185.90
   e bank charge on bank statement not recorded in books, $30.00

  - f error by bank – Switch Company cheque charged to Swift Company's account, $420.00
  - g cheque for advertising expense, $480.00, incorrectly recorded in books as $840.00.

3 Prepare a bank reconciliation statement as at 30 June.
4 Prepare entries in general journal form to update the records of the Swift Company.

PROBLEM 7.14

Bank reconciliation statements

ASB Limited received its bank statement for the month ending 30 June, and reconciled the statement balance to the 30 June balance in the cash account. The reconciled balance was determined to be $4800. The reconciliation included the following items:

- a Deposits in transit were $2100.
- b Outstanding cheques totalled $3000.
- c Bank fees of $50 were shown on the bank statement as a deduction.
- d An NSF cheque from a customer for $400 was included on the bank statement. The firm had not been previously notified that the cheque had been returned for insufficient funds.
- e Included in the presented cheques was a cheque actually written for $890. However, it has been recorded by the bank as a disbursement of $980.

Required:

1 What was the balance in ASB Limited's cash account before recognising any of the above reconciling items?
2 What was the balance shown on the bank statement before recognising any of the above reconciling items?
3 Prepare any necessary adjusting journal entries.

PROBLEM 7.15

Bank reconciliation statement

AAA Limited received its bank statement for the month ending 30 June, and reconciled the statement balance to the 30 June balance in the cash account. The reconciled balance was determined to be $5000. The reconciliation included the following items:

- a Deposits in transit were $2000.
- b Outstanding cheques totalled $3000.
- c Interest revenue of $30 was shown on the bank statement.
- d An NSF cheque from a customer for $400 was included on the bank statement. The firm had not been previously notified that the cheque had been returned for insufficient funds.

Required:

1 What was the balance in AAA Limited's cash account before recognising any of the above reconciling items?
2 What was the balance shown on the bank statement before recognising any of the above reconciling items?
3 Prepare any necessary adjusting journal entries.

PROBLEM 7.16

Prepare a bank reconciliation statement

The bookkeeper at Covington Ltd undertakes a bank reconciliation at the end of every month. On 31 August, the bank reconciliation showed a deposit in transit of $650 and two outstanding cheques (no. 463 for $170 and no. 471 for $350). The adjusted cash balance in the company records was $5906 debit.

The company's September bank statement is shown below.

State Bank Bank statement				
Covington Ltd				**Statement period**
Kensington, NSW		**DR $**	**CR $**	**31/8/2019–30/9/2019 $**
31 Aug.	Balance brought forward			5 776 CR
1 Sept.	Deposit		650	6 426 CR
2 Sept.	Deposit		590	7 016 CR
	482	260		6 756 CR
5 Sept.	Deposit		340	7 096 CR
7 Sept.	471	350		6 746 CR
8 Sept.	Deposit		420	7 166 CR
11 Sept.	Deposit		210	7 376 CR
	484	350		7 026 CR
12 Sept.	483	850		6 176 CR
14 Sept.	Deposit		810	6 986 CR
	487	740		6 246 CR
19 Sept.	Deposit		280	6 526 CR
21 Sept.	485	680		5 846 CR
25 Sept.	Deposit		760	6 606 CR
28 Sept.	486	630		5 976 CR
30 Sept.	480	430		5 546 CR
	Interest		18	5 564 CR
	Bank charges	11		5 553 CR

Company records indicate the following deposits made and cheques written during September:

	Deposits made $	Cheques written No.	$
Sept. 2	590	479	240
5	340	480	430
8	420	481	345
11	210	482	260
14	810	483	850
19	280	484	350
25	760	485	680
29	630	486	360
	4 040	487	740
			4 255

The cash at bank account balance on 30 September was $5691. In reviewing cheques, a mistake was discovered: cheque no. 486, written for advertising expenses of $630, was recorded in the cash payments journal as $360.

1. Prepare the necessary journal entries to bring the cash at bank account up to date as at 30 September.
2. Prepare a bank reconciliation statement for Covington Ltd at 30 September.

PROBLEM 7.17

Prepare a bank reconciliation statement

The following information comes from the records of Anthea's Homewares.

From the cash receipts records:		$	From the cash payments records: Date		Cheque no.	$
April	1	687	April	2	570	415
	8	805		3	571	82
	15	412		5	572	137
	22	903		8	574	1 315
	29	246		11	575	642
				15	576	701
				17	577	240
				20	578	194
				23	579	311
				27	580	293
				28	581	114

From the general ledger
Cash at bank — **Account no. 111**

Date	Item	Post ref	Debit	Credit	Balance
March 31	Balance				2 594 DR

Bank statement

			DR $	CR $	Statement period 31/3/2019–30/4/2019 $
March	31	Balance brought forward			3 657 CR
April	1	Deposit		687	4 344 CR
	3	568	372		3 972 CR
	4	570	415		3 557 CR
	8	Deposit		805	4 362 CR
		572	137		4 225 CR
	9	Direct credit		696	4 921 CR
	10	574	1 513		3 408 CR
	11	575	642		2 766 CR
	14	552	435		2 331 CR
	15	Deposit		412	2 743 CR
	16	571	82		2 661 CR
	19	NSF	421		2 240 CR
	20	576	701		1 539 CR
	22	Deposit		903	2 442 CR
		578	194		2 248 CR

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25	560	97		2 151 CR
27	577	240		1 911 CR
30	581	114		1 797 CR
	Interest		58	1 855 CR
	Bank charges	24		1 831 CR

The NSF cheque was received from Bond Enterprises, a debtor. The direct credit represents a $650 bill collected by the bank, plus interest. Cheque no. 573 was prepared improperly and has been cancelled. Cheque no. 574 for a purchase of inventory was incorrectly recorded as a cash payment of $1315 instead of $1513. On 31 March, the only reconciling items were a series of unpresented cheques: no. 552 at $435, no. 560 at $97, no. 562 at $159 and no. 568 at $372.

Prepare a bank reconciliation statement for Anthea's Homewares at 30 April, and any necessary adjusting journal entries.

PROBLEM 7.18

Prepare a bank reconciliation statement with overdraft

The following information comes from the records of Betty's Boutique.

From the cash receipts records: Date 2019		Cash (DR) amount $	From the cash payments records: Date 2019		Cheque no.	Amount $
Nov.	1	1 828	Nov.	1	721	28
	7	2 024		2	722	566
	14	6 480		3	723	832
	21	5 292		4	724	54
	30	3 884		5	726	10
				10	727	11 492
				11	728	1 418
				20	729	2 492
				21	730	152
				22	731	10 000

From the general ledger: Cash at bank					Account no. 111
Date	Item	Post ref.	Debit	Credit	Balance
Oct. 31	Balance				4 930 DR

Wolfpac National Bank			Statement of Betty's Boutique		
Date		Particulars	Debit	Credit	Balance
2019			$	$	$
Nov.	1	Balance			7 570 CR
	2	700	200		7 370 CR
	2	707	1 000		6 370 CR
	2	Deposit		1 828	8 198 CR
	4	720	920		7 278 CR
	4	721	28		7 250 CR
	6	723	832		6 418 CR
	8	724	54		6 364 CR
	8	Deposit		2 024	8 388 CR
	12	726	10		8 378 CR
	12	NSF	30		8 348 CR
	14	728	1 814		6 534 CR
	15	Deposit		6 480	13 014 CR
	22	Deposit		5 292	18 306 CR
	24	727	11 492		6 814 CR
	26	730	152		6 662 CR
	26	731	10 000		3 338 DR
	26	DC		816	2 522 DR
	30	SC	8		2 530 DR
	30	IN		84	2 446 DR

Code: DC – Direct credit IN – Interest NSF – Non-sufficient funds DD – Direct debit SC – Service charge

The NSF cheque was received from J. Pindar, a debtor. The direct credit represents an $800 bill collected by the bank, plus interest. Cheque no. 725 was prepared improperly and has been cancelled. Cheque no. 728 for a purchase of inventory was incorrectly recorded as a cash payment of $1418 instead of $1814. On 1 November, there were only the following unpresented cheques as reconciling items: no. 700 at $200, no. 707 at $1000, no. 719 at $520 and no. 720 at $920.

Prepare a bank reconciliation statement, as at 30 November 2019, and any necessary adjusting journal entries.

PROBLEM 7.19

Prepare a report on internal control following embezzlement

Following the embezzlement of $50 000 from Easy-Go Pinball Traders, you have been asked to appraise the information system of the business, with particular reference to the internal control procedures. An investigation soon discloses that there is, in fact, no system and internal control is neither understood nor practised.

Many payments are made from cash taken straight from the cash register, and when it is necessary to draw a cheque, it may be signed by any one member of the office staff. The bank statement has not been reconciled for several years. The weekly payroll normally amounts to approximately $5000, but last week it was prepared by an accounts clerk, Ian Pilfer. Pilfer wrote out a cheque for $50 000, recorded $5000 on the cheque butt, signed the cheque himself and drove the firm's car to the bank to collect the payroll. The police have been unable to locate Pilfer, the missing money or the vehicle.

Prepare a report for the management of Easy-Go Pinball Traders, making particular reference to:

1 the purpose of the bank reconciliation statement

2 deficiencies in the procedures followed by the business with respect to cash
3 the changes you would recommend to safeguard the firm's liquid assets in the future.

PROBLEM 7.20

Prepare a report on internal control

A university recently opened a parking station on its lower campus area for the benefit of the students. A guard has been engaged to patrol the car park and issue parking stickers to university students who submit an application form and show evidence of enrolment. When the sticker is affixed to the car, the student may park in the car park for six hours by placing a dollar in the parking meter. The guard inspects the stickers on all parked cars to determine that only students are parking in the lot. He also looks at the time gauges to ensure that the meter shows the necessary fees have been paid. The completed application forms are maintained in the guard's office.

Using a master key, the guard empties the meters weekly and delivers the cash to the university's central store department, where a clerk opens it, manually counts the coins, puts the cash in a safe and records the total on a weekly cash report. The report is sent to the university's accounting department. The day following the cash count, the university cashier picks up the cash and manually re-counts it, prepares the deposit slip and makes the deposit at the bank. The deposit slip, authenticated by the bank teller, is sent to the accounting department, where it is filed with the weekly cash report.

Describe any weaknesses in the existing system. For each weakness, recommend at least one improvement to strengthen the internal accounting control over the parking station cash receipts.

PROBLEM 7.21

Prepare a report on internal control

Cardshark Ltd supplies boxes of Big Bash cricket cards to various card swap shops around Australia. The company has more than 100 small clients purchasing boxes of cards on credit. Credit terms are net 30 days, with payments mostly being made by mail. Over the past few months, orders have been at a high level, reflecting an upswing in interest in cricket cards. This has meant a marked increase in both the volume of mail coming into the office and individuals paying over the counter. Mail is opened by the office junior, Sally Letter, and separated into payments on accounts and other mail. She also receives any monies that come directly over the counter. Sally sends the money to the cashier, Sam Moneybags, who puts it in the safe to await banking. The key to the safe is held by the accounts clerk, Sara Post. At the end of the week, Sara takes the money to the bank and uses the bank-stamped deposit slip to write up the cash receipts book. Monthly reconciliations of the bank account are prepared by Sara.

Based on this description of Cardshark Ltd's cash receipts system:

1 Identify the potential problems with Sara Post's duties.
2 Other than reassigning duties and responsibilities, give three recommendations in order to improve the current system of handling cash receipts.

CASES

CASE 7A Woolworths Limited

Refer to the 2017 annual report of Woolworths Limited in this book's appendix.

1 Are there any references to internal control by Woolworths Limited?
2 What details are provided about the internal audit function?

CASE 7B Internal control disclosures

Following is an excerpt from the 2017 annual report of BHP Billiton.

BHP Billiton

Management's assessment of our internal control over financial reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act). Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements and, even when determined to be effective, can only provide reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including our CEO and CFO, the effectiveness of BHP's internal control over financial reporting has been evaluated based on the framework and criteria established in Internal Controls – Integrated Framework (2013), issued by the Committee of the Sponsoring Organizations of the Treadway Commission (COSO). Based on this evaluation, management has concluded that internal control over financial reporting was effective as at 30 June 2017. There were no material weaknesses in BHP's internal controls over financial reporting identified by management as at 30 June 2017.

BHP has engaged our independent registered public accounting firms, KPMG and KPMG LLP, to issue an audit report on our internal control over financial reporting for inclusion in the Financial Statements section of this Annual Report on Form 20-F as filed with the SEC.

There have been no changes in our internal control over financial reporting during FY2017, other than the remediation of the previously reported material weakness referred to below, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

BHP Billiton Limited, *2017 Annual Report*, p. 115
(https://www.bhp.com/-/media/documents/investors/annual-reports/2017/bhpannualreport2017.pdf).

1 Who is responsible for internal control?
2 Why does BHP refer to the US Exchange Act?
3 Why can internal controls provide only reasonable assurance that business risks will be fully mitigated?

CASE 7C Internal controls over non-financial risks

A number of countries have introduced (or are considering the introduction of) regulatory reform over greenhouse gas emissions in an effort to curb the effects of climate change. These countries include Australia, South Africa, China, India, and some European countries. For companies operating in the energy industries these proposed regulations may have a severe impact on their future operations. While in 2014 Australia withdrew its carbon tax, South Africa is planning to introduce a carbon tax in 2018 and carbon pricing is being considered in other jurisdictions. Accordingly, any breach of these regulations may lead to financial penalties and loss of reputation.

What internal control processes could companies (especially multinational companies) affected by these reforms put in place to minimise the risks associated with a breach?

CASE 7D Internal controls over intangible assets

For many companies, their most valuable assets are not their cash and their inventory but their intangible assets. These intangible assets may include brand names, mastheads, patents and items that are trademarked or covered by copyright.

1 What internal control procedures can be put in place by companies to protect their:
   a brand names?
   b patents?
   c trademarks/copyright?
2 The control procedures you have identified in question 1 will vary by how much they cost and what benefit may be derived. For each item of intellectual property, identify a very costly procedure that could be employed and a very inexpensive procedure.
3 Perform a cost–benefit analysis and identify whether you recommend your costly or your inexpensive procedure by examining the potential benefit that could be obtained by the company relative to its costs.

CASE 7E The ethics of facilitation payments

In some countries it is known that payments can be made to local public servants to speed up the approval of permits, licences and other processes. These have been called facilitation payments but could otherwise be termed bribes. While countries such as the United States and the United Kingdom have banned companies headquartered in their countries making facilitation payments, other countries are yet to do so.

1 What is the difference, if any, between a facilitation payment and a bribe?
2 Discuss whether you would consider the following situations as being a facilitation payment or a bribe?
   a a company pays $100 to a local official to arrange for fast approval of a visa for the overseas managing director to visit
   b a company pays $100 000 to a local official to support the company's tender bid to provide services to the local government
   c a company documents a $100 000 payment to a local official in the minutes of the board meeting and it is approved by the board of directors
   d a company claims a tax deduction for the $100 payment to the local official
   e the managing director believes that all payments are facilitation payments because 'that is how business is done here and everyone else is doing it'.

HOW'S YOUR UNDERSTANDING SOLUTIONS

7A i Password access for authorised users, edit checks and no payment greater than $x.
   ii The person who records cash transactions does not physically handle cash.
   iii Locks, swipe-card access to approved employees, and video cameras in shops.

Bank reconciliation statement as at 30 June 2019

		$
Balance as per bank statement		20 208 CR
Plus	Outstanding lodgement 30 June	2 450
		22 658
Less	Unpresented cheques	8 250
Balance as per bank A/C in ledger		14 408 DR
Ending balance per Holmes Traders records		13 418 DR
Add: Direct credit from Emma & Tim Limited		1 000
		14 418
Deduct: Bank charge		10
Adjusted cash balance: Holmes Traders records		14 408 DR

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

The answer to this problem could be quite wide-ranging. One approach is to say that internal control involves managing and safeguarding assets and that managers such as Janet, should care about internal control because they are responsible for these management and safeguarding activities, on behalf of the owners. Some details that might be included would be to list particular components of internal control and note management's responsibility for each. Some such components are as follows:

- Keeping control over the company is part of management's general objective and so internal control is consistent with and helpful to managers' general purposes.
- Some specific aspects of internal control Janet may want to think about:
  - physical protection of assets (fences, safes, locks, passwords on computers)
  - economic protection of assets (avoiding obsolescence, keeping assets maintained and so on)
  - insurance against loss (probably cheaper the better the control is)
  - generally staying aware of the location, condition, economic value and other important features of assets.
- Some techniques that are helpful to managers like Janet:
  - segregation of duties
  - good, reliable records
  - timely reports on assets' use and condition
  - periodic verification of records
  - cost-effective physical protection
  - proper motivation and monitoring of employees, customers and others with access to assets.

PRACTICE PROBLEM B

1 Bank reconciliation statement:

JOHNSON LTD
BANK RECONCILIATION STATEMENT 30 SEPTEMBER 2019

		$	$
Ending	Balance as per bank statement		8 401 CR
	Add: Deposit not credited by bank		430
			8 831
	Less: Outstanding cheques		
	No 597	260	
	No 613	214	
	No 615	357	
	No 616	262	1 093
Adjusted:	Balance as per cash at bank account		7 738 DR
Ending	Balance per company records		8 061 DR
	Add: Increase reported bank statement but not entered in company records:		
	Error in recording cheque 610		27
			8 088
	Deduct: Decreases reported on bank statement but not entered in company records:		
	Accounts receivable – dishonoured cheque	335	
	Bank charges	15	350
Adjusted:	Balance as per cash at bank account		7 738 DR

2 General journal entries:

Date 2019	Description	DR $	CR $
Sep 30	Cash at bank	27	
	Repairs expense		27
	To correct error in recording $258 cheque as $285.		
30	Accounts receivable – D Lewis	335	
	Cash at bank		335
	To record dishonoured cheque.		
30	Bank charges	15	
	Cash at bank		15
	To record bank service charge.		

3 Points to note:

- A business could dispense with its own cash records and rely entirely on bank statements but, in most cases, such an arrangement would fail to provide information that would be adequate for internal control purposes.
- Bank errors are rare, but possible, due to the rigid internal checks in force so that the bank statements provided would generally be accurate records. Problems would arise in respect of lack of detail and absence of an up-to-date record.
- The bank statement furnishes adequate details of charges levied by the bank. However, it provides a minimum of information concerning cheques that have been cleared and deposits that have been made. Businesses require details of other parties involved in transactions, and about the accounts affected by these transactions, and these are not forthcoming from the bank.
- The information shown on the bank statement may not be sufficiently up to date for internal control purposes. Such statements are normally obtained from the bank on a weekly or monthly basis but if they constituted a firm's sole cash record it would be necessary to arrange for them to be furnished more frequently.
- Sums deposited are normally recorded by the bank very promptly. However, cheques that are written by the customer can only be debited to his or her account when presented for payment. Delay in presentation will inevitably lead to an overstatement of cash at bank and could mislead management. Decisions could be made on the assumption that ample funds were available; this could lead to financial problems when all cheques had been cleared.
- In general, most businesses prefer to maintain their own cash records. This is so that the records will:
  - be in a form that is useful to the organisation
  - be in sufficient detail
  - be kept up-to-date
  - as a form of control.

COURSEMATE EXPRESS

WEBSITE RESOURCES

CourseMateExpress

Go to **http://login.cengagebrain.com** and use the access code that comes with this book for 12 months access to the resources and study tools for this chapter.

The CourseMate Express website contains:

> student revision quizzes
> glossary of key terms and flashcards
> and more!

NOTES

1 Section 7.3 is adapted with permission from L. Solomon, L. Walter, P. Vargo & L. Plunkett, *Financial Accounting*, South-Western College Publishing, Cincinnati, Ohio, 1996.
2 The material for these steps was provided by Rosina Mladenovic, as were some questions. A number of the questions were provided by Kevin Clarke, Gordon Howitt, Claudia Gormly, Chris Poullaos, Rosina Mladenovic and Peter Roebuck.
3 Section 7.5 is adapted from the source listed in note 1.

Accounts receivable and further record-keeping

8

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 understand the principles of recording sales transactions in accordance with accrual accounting (8.1)

LO2 understand the use of contra accounts for recording of doubtful debts (8.2, 8.3)

LO3 prepare journal entries for managing accounts receivable including increasing the allowance for doubtful debts and writing off bad debts (8.3, 8.4)

LO4 demonstrate the financial statement impacts of doubtful debts and bad debts (8.3, 8.4)

LO5 calculate trade discounts for early payment of accounts receivable and payable and record appropriately (8.5)

LO6 understand the role of special journals, subsidiary ledgers and control accounts within the accounting recording system (8.6–8.8, 8.10)

LO7 record transactions using special journals, subsidiary ledgers and control accounts (8.9).

CHAPTER OVERVIEW

This chapter covers key issues related to accounting for sales revenues. This includes a detailed discussion of how to account for sales made where the cash has not yet been received (accounts receivable), as well as how accountants anticipate that not all of the credit extended to customers of the business will be repaid in full. We consider how accountants and managers deal with unpaid client accounts and the differing approaches that can be taken. We go deeper into the accounting recording system with a discussion of the use of special journals, subsidiary ledgers and control accounts, which is relevant for those students wishing to acquire a detailed knowledge of accounting recording systems.

8.1 Receivables

LO1 Receivables are an asset that occurs when a service has been provided but cash will not be received until the following period. Common examples of receivables include accounts receivable, interest receivable on loans, commissions earned and unbilled revenues. For example, let's consider the example of Telstra, a telecommunications company that bills its customers monthly or quarterly. When it bills customers, it increases accounts receivable and increases sales revenue. When the cash is received, cash is increased and accounts receivable is decreased. Note that this later entry does not affect profit because the revenue was recognised at the point of sale not when cash was received. The journal entries would be:

At time of sale:			$	$
	DR	Accounts receivable	10 000	
	CR	Sales revenue		10 000
When cash is received:				
	DR	Cash	10 000	
	CR	Accounts receivable		10 000

You will recall that accounts receivable is a current asset that will appear in the balance sheet, and sales revenue is a revenue account that will appear in the income statement for the year ended 30 June 2019.

Let's consider another type of unrecorded revenue that you saw in Chapter 5. For example, assume a company deposited $300 000 with a bank for one year at 10 per cent on 1 March 2019 (interest payable at the end of the period). At 30 June 2019, they would have earned $10 000 interest, although the total interest of $30 000 would not be received until 28 February 2020.

Accrued interest (also called interest receivable), which is an asset, would be increased by $10 000, and interest revenue would be increased by $10 000.

	Assets	=	Liabilities	+	Equity
	Accrued revenue				Interest revenue
30 June	+10 000				+10 000
Total	+10 000				+10 000

Accrued revenue (or interest receivable) is a current asset that will appear in the balance sheet, and interest revenue is a revenue account that will appear in the income statement for the year ended 30 June 2019.

The journal entry would be:

			$	$
30 June	DR	Accrued revenue	10 000	
	CR	Interest revenue		10 000

Recall that we discussed how Telstra bills its customers. However, at 30 June there will be a lot of telephone calls that have been made but not yet billed. For example, if you receive a bill on 1 June (and you are billed quarterly), you will not receive another bill until 1 September. As telephone calls have been made in June, Telstra has provided the service; therefore, it is entitled to recognise the revenue. Telstra's financial statements (see Exhibit 8.1) show accrued revenue of $1672 million ($1324 million in 2016) under current assets. That is, at the end of the year, it increased accrued revenue and increased sales revenue.

HOW'S YOUR UNDERSTANDING?

8A What effect would failure to make adjustments for accrued revenue have on the balance sheet and the income statement?

8B A company has a $50 000 balance in the company's accrued revenue account. Where would this account appear in the balance sheet?

8.2 Control accounts and contra accounts

LO2

Just about every balance sheet account will be made up of many items. We call them control accounts. Cash is the sum of the physical cash on hand and the multiple bank accounts held by the company. Accounts receivable is the sum of all the individual customers' accounts. Inventory is the amount that should be found if the company lists or counts all the unsold goods physically on hand. Accounts payable is the sum of all the individual suppliers' accounts. The number of shares outstanding should be traceable to the share capital account. (The particular owners may change, for example, because of trading on the stock market, but the company should always know how many shares it has issued and what it originally received for them.) Even the property, plant and equipment asset accounts are control accounts, as all the assets whose costs are included should be physically present.

The value of all these accounts as control accounts is that the amounts in them should be supported by, or reconcilable to, detailed lists or subsidiary ledgers, or some such background data. What do we do, then, when we want to make a change in a balance sheet account without changing the underlying records and lists?

In Chapter 5 we introduced the idea of a contra account to allow us to recognise expenses and related value changes to assets without changing the control account. The example we considered in Chapter 5 was accumulated depreciation, which was deducted from the cost of the asset to give the book value of the asset that is shown on the face of the balance sheet.

So here is another form of contra account:

- We have become worried that we might not collect all the accounts receivable, so, for conservatism and proper profit measurement, we want to recognise that we anticipate that there will be some 'bad debts'. However, we do not want to change the accounts receivable control account because it should correspond to the list of customers' accounts, and we have not yet given up on collecting any accounts receivable, so the control feature is still useful.

Recall from Chapter 5 that contra accounts have balances that are in the *opposite direction* to those of the control accounts with which they are associated. For example, contra asset accounts have credit balances that are 'contra' the assets' debit balances. Here we will focus only on one of the most common uses of contra accounts: allowing for doubtful accounts receivable. Here the asset, accounts receivable, will have a debit balance and the contra account, allowance for doubtful debts, will have a credit balance.

8.3 Accounts receivable and contra accounts

LO2 LO3 LO4

Before considering the use of the contra account called allowance for doubtful debts, we will provide a brief overview of the asset to which it relates, accounts receivable. Most accounts receivable are *recognised but uncollected revenue*, created by the accrual accounting entry: DR accounts receivable, CR sales revenue. Such receivables arise from the company's day-to-day business activities and are therefore often called trade receivables. They are included in current assets because they are usually expected to be collected within one year.

Valuation of accounts receivable

Receivables are valued on the balance sheet at the lower of cost or net realisable value. 'Cost' here is the original transaction value of the sale that gave rise to the receivable, plus any subsequent interest charges. Net realisable value is the amount expected to be collected (the cash value of the receivables, if you like). There is often collection uncertainty, and companies often experience difficulties in collection, especially as time passes after the sale. So, if the collectable amount is now expected to be lower than originally anticipated, the receivable must be reduced to an estimated collectable amount. The method for doing this involves subtracting an allowance for doubtful accounts from the accounts receivable balance.

The estimated collectable amount is gross accounts receivable minus the allowance for doubtful debts. Therefore, the allowance functions to adjust the net value down to the lower of cost (original value) and the current estimated collectable amount. On the balance sheet, accounts receivable are valued at this net amount. Australian companies show in the notes to the financial statements the amount of the allowance for doubtful debts deducted from gross accounts receivable.

For example, Telstra Corporation Limited, in its 2017 balance sheet, shows receivables of $5 468 000 000 in the current assets section. This amount is net accounts receivable and its breakup is shown in note 3.3 of the accounts as shown in Exhibit 8.1.

EXHIBIT 8.1

TELSTRA CORPORATION LIMITED

NOTE 3.3: TRADE AND OTHER RECEIVABLES

	As at 30 June	
	2017 $m	2016 $m
Current		
Trade receivables	3 635	3 343
Allowance for doubtful debts	(133)	(134)
	3 502	3 209
Finance lease receivable	122	111
Accrued revenue	1 672	1 324
Other receivables	172	93
	5 468	4 737

Telstra Corporation Limited, *Annual Report 2017*, notes to financial statements, p. 98 (https://www.telstra.com.au/content/dam/tcom/about-us/investors/pdf-e/Annual-Report-2017-singlepages.PDF).

Trade receivables are shown at their gross amount ($3635 million), and the allowance for doubtful debts ($133 million) is deducted.

Other receivables

There are two other main kinds of receivables. If these are large, they are shown separately, but if not, they are usually just lumped together under the heading 'Other debtors'.

The first kind is notes receivable. These are supported by a signed contract between buyer and seller that specifies a payment schedule, an interest rate and, often, other legal details. Such notes are often used for large and/or long-term receivables, such as sales of motor vehicles, houses or appliances, and loans by banks and finance companies (long-term receivables would be properly classified as noncurrent rather than current assets). Notes are shown at present value (only interest that has built up so far is included in the asset, not future interest).

The second kind is loans to employees, officers and shareholders, loans to associated companies, tax refunds the company is waiting for and other receivables not arising from revenue transactions. They are accounted for and valued much as normal trade receivables and notes receivable are, but because some may arise from peculiar circumstances, companies often disclose the reasons for them and explain other circumstances about them. They are often included under the heading 'Other debtors'.

Allowance for doubtful debts

This section discusses further the allowance for doubtful debts. When a company sells to a customer on account, there will always be some risk that the customer will fail to pay. Therefore, a portion of the sales on account will be doubtful, and that portion should be deducted from revenue in determining profit for the period. This is called a bad debts expense.

The transaction analysis for the creation of an allowance for doubtful debts based on some estimate of the likely level of doubtful debts is:

↑ Bad debts expense

↑ Allowance for doubtful debts (↓ total assets).

Note that the allowance for doubtful debts is a contra asset account, which means that when we increase the allowance we are actually reducing total assets. Let's assume that the company determines – by past experience or current evidence of customers' troubles – that about $500 of sales on account are not likely to be paid.

The journal entry to *recognise* the expense is:

		$	$
DR	Bad debts expense	500	
CR	Allowance for doubtful debts		500

The credit in this entry is again to a contra asset account, just as it is for depreciation. (However, don't forget that accumulated depreciation is in the noncurrent assets section of the balance sheet, while this one is generally in the current assets section.) The reason for not deducting the amount directly from the accounts receivable asset is that even after the usual collection time has passed, the company may still try to collect on the accounts and, therefore, doesn't want to alter the accounts receivable amount. The list of individual accounts should have the same total as that of the accounts receivable account for control reasons, so the account should not be changed just because collection is doubtful.

Eventually, after pursuing a non-paying customer for months, a company may decide to write the account off. Another journal entry is then needed. Suppose the account in question equals $100 (it was one of the risky ones contemplated when the allowance was created above), then the transaction effect would be to reduce the allowance for doubtful debts and reduce accounts receivable, both by $100.

The journal entry is:

		$	$
DR	Allowance for doubtful debts	100	
CR	Accounts receivable		100

This entry eliminates the account from the books of the company completely, but you'll notice that it does not affect expenses (and, therefore, profit); that effect was created when the allowance and the expense were recognised earlier.

Note that this write-off is handled differently from the noncurrent asset write-offs described earlier. The reason is that the allowance for doubtful debts is considered to apply to the whole list of accounts receivable, in aggregate. We don't necessarily know which specific accounts receivable were provided for. For example, the $500 allowance for doubtful debts was probably based on an average experience; for example, 15 per cent of accounts over 60 days old will not be collected. We don't need to know which accounts in order to make such an allowance for the aggregate risk being taken.

Bad debt write-offs can also throw the system out if they are large enough. For example, in the above case, what if a customer account for $800 had to be written off? That's more than there is in the allowance! There are methods for adjusting the allowance to take such problems into account, but this book will not include them beyond the next brief example.

It is possible to operate a company's accounting system without an allowance for doubtful accounts. Bad debts can be written off directly to accounts receivable using the so-called direct write-off method. This is used when a company has few accounts receivable or when a large account not contemplated in the allowance account suddenly goes bad. Suppose an account totalling $1500 is to be written off directly. Then the entry would be:

		$	$
DR	Bad debts expense	1 500	
CR	Accounts receivable		1 500

This is equivalent to allowing for it first, then writing it off using the entries shown earlier:

		$	$
DR	Bad debts expense	1 500	
CR	Allowance for doubtful debts		1 500
DR	Allowance for doubtful debts	1 500	
CR	Accounts receivable		1 500

As this example shows, the allowance can be seen as a temporary holding account for amounts the company believes will not be collected, based on past experience and an assessment of outstanding accounts. However, during the holding period, an expense has been recognised and the asset value on the balance sheet has been reduced. Using an allowance account is usually preferable to direct write-off, not only because of the internal control advantages the contra account provides, but also because the allowance provides a way to have an expense before the company gives up on collection. Therefore, it is generally more conservative in its effects on the balance sheet and the income statement.

Here is a final example of the use and effect of an allowance for doubtful debts contra account.

- Jellyroll Sweets Ltd sells chocolates to retail stores. At the end of 2018, it had accounts receivable of $53 000 and an allowance for doubtful debts of $3100. Therefore, the estimated collectable amount of the accounts receivable was $49 900 at the end of 2018.
- During 2019, the company had credit sales of $432 800 and collected $417 400 from customers. Therefore, at the end of 2019, the accounts receivable stood at $68 400 ($53 000 + $432 800 − $417 400).
- At that point, the sales manager went through the list of accounts receivable and determined that accounts totalling $1200 were unrecoverable and should be written off. Furthermore, an aggregate allowance account at the end of 2019 of $4200 was required. The amount of the allowance was based on the percentage of the debtors that had not paid in the past. It also took into account the ageing of accounts receivable and the state of the economy.

The effect of the above is to write off bad debts by decreasing the allowance for doubtful debts and decreasing the accounts receivable, both by $1200. The doubtful debts are allowed for by increasing the bad debts expense account and increasing the allowance for doubtful debts by $2300. The journal entries to accomplish what is needed are shown below.

		$	$
DR	Allowance for doubtful debts	1 200	
CR	Accounts receivable		1 200

Allow for doubtful ones:

		$	$
DR	Bad debts expense	2 300	
CR	Allowance for doubtful debts		2 300
Balance in allowance $3100 – $1200 = $1900 Allowance needed at the end of 2019 = $4200 Additional allowance $4200 – $1900 = $2300			

The accounts receivable balance is now $67 200 ($68 400 – $1200) and the contra balance is $4200. Therefore:

- The estimated collectable value of the accounts receivable (the net balance sheet value) is $63 000 at the end of 2019.
- Bad debts expense for 2019 is $2300.
- The write-off of the unrecoverable debts ($1200) cleared it out of the list of receivables, but did not affect either profit or the net balance sheet value.

The purposes of contra accounts are, like most other things in accounting, to provide useful information to the readers of financial statements and/or to assist in accounting's internal control functions. Internal control was discussed in Chapter 7.

HOW'S YOUR UNDERSTANDING?

8C Flimsy's accounts receivable at the end of 2019 totalled $78 490. The allowance for doubtful debts had been $2310, but it was decided that this would be increased by $1560, then $1100 in unrecoverable accounts would be written off.

i What is the value of the receivables at the end of 2019?

ii What is the balance of the allowance for doubtful debts at the end of 2019?

iii What is the bad debts expense for 2019?

Ageing of accounts receivable[1]

When determining an estimate for uncollectable accounts, companies can use two approaches: the income statement approach and the balance sheet approach. Irrespective of the approach used, the journal entry is the same (however, the amounts may – and often do – differ). As their names suggest, the income statement approach focuses on the income statement and calculates the balance of the bad debts expense account, while the balance sheet approach focuses on the balance sheet and calculates the balance of the allowance for doubtful debts account.

The income statement approach relies on the historical relationship (or an estimate of the current relationship) between credit sales and the amount of those sales unlikely to be collected. For example, past experience might suggest that bad debts are about 2 per cent of net credit sales each year. This percentage is then multiplied by net credit sales to estimate the bad debts expense. The journal entries are illustrated in the following example.

The CFO of Anna Limited tells you that her past experience suggests that 2 per cent of credit sales become uncollectable. Anna's credit sales for this year were $640 000. Using the income statement approach, Anna Limited needs to record:

		$	$
DR	Bad debts expense	12 800	
CR	Allowance for doubtful debts		12 800

Note that the income statement approach can easily overstate or understate the level of bad debts being recognised as economic and market conditions change. For example, an economic downturn may mean that historic percentages of credit sales not collected may be understated. Generally speaking the balance sheet approach is more forward-looking than the income statement approach.

The balance sheet approach is based on the belief that the older the account receivable, the greater the probability that the amount will not be collected. This method calculates what the balance of allowance for doubtful debts should be. Don't forget that the allowance for doubtful debts is a balance sheet account and will have an opening balance that will need to be considered in the determination of the amount of the journal entry. The amount of the increase required to get the allowance for doubtful debts to the desired amount will be the bad debts expense for the period. Let's look at another example.

The CFO of Elsa Limited has prepared a schedule based on her past experience indicating the following percentages of accounts receivable that have been written off as bad.

Age category	Percentage
Not yet due	1
1–30 days overdue	3
31–60 days overdue	9
61–90 days overdue	16
Over 90 days overdue	25

The present balance of the allowance for doubtful debts is $1200 CR. As at 30 June, the ageing of accounts receivable revealed the following:

Not yet due	$73 000
1–30 days overdue	$12 000
31–60 days overdue	$ 5 000
61–90 days overdue	$ 3 000
Over 90 days overdue	$ 1 300

To determine the required adjustment to the Allowance for doubtful debts, the CFO prepares a schedule as follows:

Age category	Amount	Percentage	Estimated uncollectable
Not yet due	$73 000	1	$ 730
1–30 days overdue	$12 000	3	$ 360
31–60 days overdue	$ 5 000	9	$ 450
61–90 days overdue	$ 3 000	16	$ 480
Over 90 days overdue	$ 1 300	25	$ 325
Total	$94 300		$2 345

Don't forget that the allowance for doubtful debts has an opening balance of $1200 CR. As the calculated balance for the allowance for doubtful debts is $2345, an additional $1145 will need to be added to this account using the following journal entry:

		$	$
DR	Bad debts expense	1 145	
CR	Allowance for doubtful debts		1 145

Note that it is not uncommon for the allowance for doubtful debts to have a debit balance during the year; this can happen when more debts have been written off than have been provided for. In the above example, if the opening balance of the allowance for doubtful debts had been $350 DR (instead of $1200 CR), the appropriate journal entry would have been:

		$	$
DR	Bad debts expense	2 695	
CR	Allowance for doubtful debts		2 695

8.4 Illustrative example

Recall the Scanlon Limited comprehensive example in section 5.6. During January 2019, some additional transactions occurred: LO3 LO4

- o Following an analysis of past experience, it was decided that allowance for doubtful debts should be $43 680
- p Bad debts of $8000 were written off.

The following steps will be carried out:

1. Prepare journal entries for the above transactions (Exhibit 8.2).
2. Enter the opening balances in the relevant ledger accounts (accounts receivable and allowance for doubtful debts) and post the journal entries to the ledger (Exhibit 8.3).
3. Prepare a revised trial balance at 31 January 2019 (Exhibit 8.4).
4. Prepare a new set of closing entries (Exhibit 8.5).
5. Prepare a post-closing trial balance (Exhibit 8.6).
6. Prepare an income statement for the month of January 2019 and a revised balance sheet as at 31 January 2019 (Exhibits 8.7 and 8.8).

EXHIBIT 8.2

SCANLON LIMITED

JOURNAL ENTRIES

			Debit $	Credit $
o	31 Jan.	Bad debts expense	$43 680	
		Allowance for doubtful debts		$43 680
		To record the increase in the allowance for doubtful debts		
p	31 Jan.	Allowance for doubtful debts	8 000	
		Accounts receivable		8 000
		To record write-off of certain debtors		

Before preparing the financial statements, the revenue and expense accounts are closed via the closing journal entries (Exhibit 8.5). They start with a zero balance in the next accounting period to enable profit for that period to be calculated.

After posting these journal entries, a post-closing trial balance is prepared (Exhibit 8.6). The income statement and the balance sheet are provided in Exhibits 8.7 and 8.8.

EXHIBIT 8.3

SCANLON LIMITED

SELECTED LEDGER ACCOUNTS

Accounts receivable

Opening bal.		600 000		
	b	6 100 000	e	5 800 000
			p	8 000
Closing bal.		892 000		

Allowance for doubtful debts

	p	8 000	Opening bal.	0
			o	43 680
			Closing bal.	35 680

EXHIBIT 8.4

SCANLON LTD

REVISED PRE-CLOSING TRIAL BALANCE AT 31 JANUARY 2019

	Debit $	Credit $
Cash	1 430 000	
Accounts receivable	892 000	
Inventory	300 000	
Prepaid insurance	70 000	
Prepaid rent	60 000	
Accrued revenue	5 000	
Equipment	1 000 000	
Allowance for doubtful debts		35 680
Accumulated depreciation		210 000
Accounts payable		300 000
Revenue received in advance		0
Income tax payable		0
Loan		570 000
Share capital		420 000
Retained profits		320 000
Sales		6 800 000
Service fee revenue		100 000
Interest revenue		5 000
Cost of goods sold	3 000 000	
Salaries expense	1 200 000	
Bad debts expense	43 680	
Depreciation expense	10 000	
Insurance expense	30 000	
Rent expense	20 000	
Commission expense	600 000	
Other expenses	100 000	
	8 760 680	8 760 680

EXHIBIT 8.5

SCANLON LTD

REVISED CLOSING JOURNAL ENTRIES

	Debit $	Credit $
Sales	6 800 000	
Service fee revenue	100 000	
Interest revenue	5 000	
Profit and loss summary		6 905 000
Profit and loss summary	5 003 680	
Cost of goods sold		3 000 000
Salaries expense		1 200 000
Bad debts expense		43 680
Depreciation expense		10 000
Insurance expense		30 000
Rent expense		20 000
Commission expense		600 000
Other expenses		100 000
Profit and loss summary	1 901 320	
Retained profits		1 901 320

EXHIBIT 8.6

SCANLON LTD

REVISED POST-CLOSING TRIAL BALANCE

	Debit $	Credit $
Cash	1 430 000	
Accounts receivable	892 000	
Inventory	300 000	
Prepaid insurance	70 000	
Prepaid rent	60 000	
Accrued revenue	5 000	
Equipment	1 000 000	
Allowance for doubtful debts		35 680
Accumulated depreciation		210 000
Accounts payable		300 000
Revenue received in advance		0
Income tax payable		0
Loan		570 000
Share capital		420 000
Retained profits		2 221 320
	3 757 000	3 757 000

EXHIBIT 8.7

SCANLON LTD

REVISED INCOME STATEMENT FOR THE MONTH ENDING 31 JANUARY 2019

	$	$
Sales:		6 800 000
Cost of goods sold		3 000 000
Gross profit		3 800 000
Other revenue:		
Service fee revenue	100 000	
Interest revenue	5 000	105 000
		3 905 000
Operating expenses:		
Salaries	1 200 000	
Bad debts	43 680	
Depreciation	10 000	
Insurance	30 000	
Rent	20 000	
Commission	600 000	
Other expenses	100 000	2 003 680
Net profit		1 901 320

EXHIBIT 8.8

SCANLON LTD

REVISED BALANCE SHEET AS AT 31 JANUARY 2019

	$	$
Assets		
Current assets		
Cash		1 430 000
Accounts receivable (net)		856 320
Inventory		300 000
Prepaid insurance		70 000
Prepaid rent		60 000
Accrued revenue		5 000
		2 721 320
Noncurrent assets		
Equipment	1 000 000	
Accumulated depreciation	210 000	790 000
Total assets		3 511 320

>

Liabilities	
Current liabilities	
Accounts payable	300 000
Noncurrent liabilities	
Loan	570 000
Total liabilities	870 000
Net assets	2 641 320
Shareholders' equity	
Share capital	420 000
Retained profits*	2 221 320
	2 641 320

*Closing retained profits = 1 901 320 + 320 000 = 2 221 320

8.5 Trade discount and cash discount

LO5

Before we move on to the recording process using special journals and subsidiary ledgers, it is desirable to distinguish between two forms of discount that may relate to both accounts receivable and accounts payable: trade discount and *cash discount*. Each represents a reduction in the amount that a customer ultimately pays a vendor for goods or services supplied. However, the two types differ in purpose and in the way they are customarily recorded in accounting systems.

Trade discount

Trade discount, where compatible with trade practices legislation, is a means of adjusting the actual price charged to a customer from a standard 'list price'. Usually, the amount of reduction depends on the category of customer or their normal volume of business. For example, a manufacturer may sell at list price to the general public, but allow a discount of 40 per cent off list price to retailers and a discount of 55 per cent to wholesalers. Although the amount of such discount is occasionally recorded in the books of account, most organisations, whether receiving or giving the discount, record only the net amount of the transaction. This is because the effect of a trade discount is merely to set an actual price for the transaction.

For example, Solstice Limited has a retail pricelist for its products, but offers those who purchase greater than $10 000 a 20% discount. A $100 purchase on credit would be recorded in Solstice's books as

DR	Accounts receivable	$100	
CR	Sales revenue		$100

A $20 000 purchase on credit attracts a 20% discount, so would be recorded as follows:

DR	Accounts receivable	$16 000	
CR	Sales revenue		$16 000

Cash discount

A cash discount, in contrast, is a conditional adjustment after determining the actual selling price at which the transaction takes place. It is an incentive for prompt settlement of debts and is allowed only if there is compliance with payment terms. It is not, therefore, a change in the price of the original sales transaction, and is generally recorded as an additional transaction.

A common arrangement is to extend credit terms such as 2.5/10, n/30. This means that a discount of 2.5 per cent may be deducted from the amount due if payment is made within 10 days; otherwise, the net amount (with no early payment discount but after adjusting for any trade discount) is payable within 30 days.

Thus, if sales totalling $400 were made to a particular customer during April on the above terms, $10 could be deducted from the payment if settlement was made in the discount period. In the first instance, the gross selling price is recorded by both parties. If discount is allowed, it is commonly recorded as a discount allowed expense for the seller and as a discount received revenue by the purchaser.

HOW'S YOUR UNDERSTANDING?

8D Using the data above, prepare the journal entries to record the $400 sale; and the cash transaction for $390 and a settlement discount of $10 in:

- i The seller's accounts
- ii The purchaser's accounts

We will further demonstrate the recording of these transactions in the cash receipts and cash payments journals, respectively, in the next section.

8.6 Detailed recording using special journals, subsidiary ledgers and control accounts[2]

LO6 This section is most relevant to students who require a more detailed knowledge of recording systems.

Before going on, let's remind ourselves of the accounting cycle, as summarised in Figure 8.1. Up until this point, we have assumed that the economic events captured in the accounting system are initially recorded in a general journal, then summarised through posting to the general ledger. Such a system is fine for a business with a small set of transactions. However, if you think back on the sorts of transactions you have already recorded (and imagine a more complex business), you will have noticed that many of the transactions have common elements; for example, many transactions involve cash collections or payments. Given this feature, special systems can be put in place that allow a more efficient recording process for common transactions. These systems support and feed into the recording, classifying and summarising processes shown in Figure 8.1.

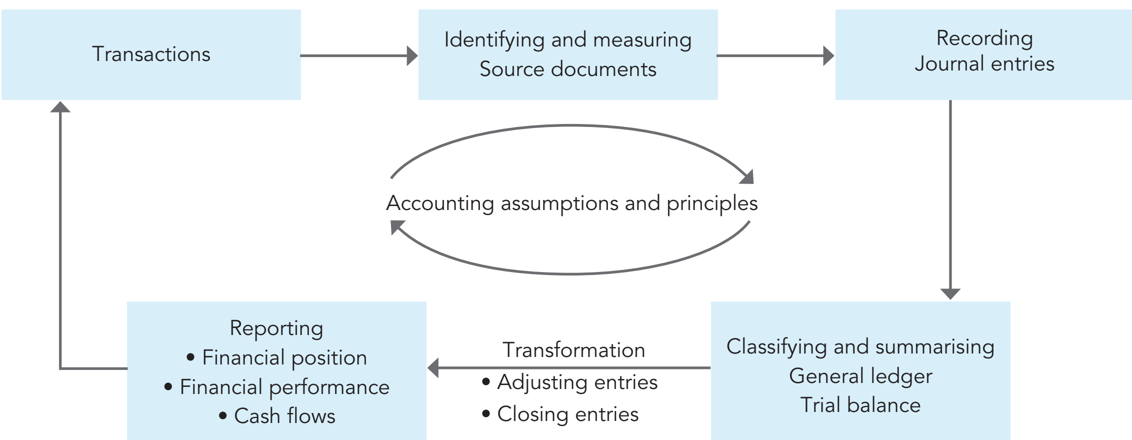

FIGURE 8.1 The accounting cycle

Rather than all the accounting information being captured in one journal and posted to one ledger, a system of special journals and subsidiary ledgers can be used to streamline the recording, storage and categorisation of data.

Special journals are designed to allow the easy recording of the most common transactions undertaken by a business, while subsidiary ledgers represent a detailed analysis of the information that is eventually transferred to a general ledger account.

In what follows, special journals and subsidiary ledgers are described in a manual framework to help you understand the relational nature of the databases used in a more sophisticated accounting system. Similar 'structures' and processes are used in computerised systems. While many computerised accounting systems do not require the use of special journals, the journals can be produced by the system to provide summaries of transactions, if required.

Let's briefly look at one example of how a common transaction for some businesses – credit sales – can be recorded in a system that uses special journals and subsidiary ledgers. Figure 8.2 shows the receipt of an order from a customer who is allowed to buy from a business on credit. When the customer receives the product or service, a sales invoice is issued to the customer showing the product or service he or she has bought, the amount owed and when it needs to be paid by. The sales invoice becomes the source document that is used to record information in the accounting system. In this case, the business transaction is recorded in a special journal called a sales journal, because it is used to record all information about credit sales. At the same time, the customer's account is updated in the subsidiary ledger to show that he or she owes money to the business.

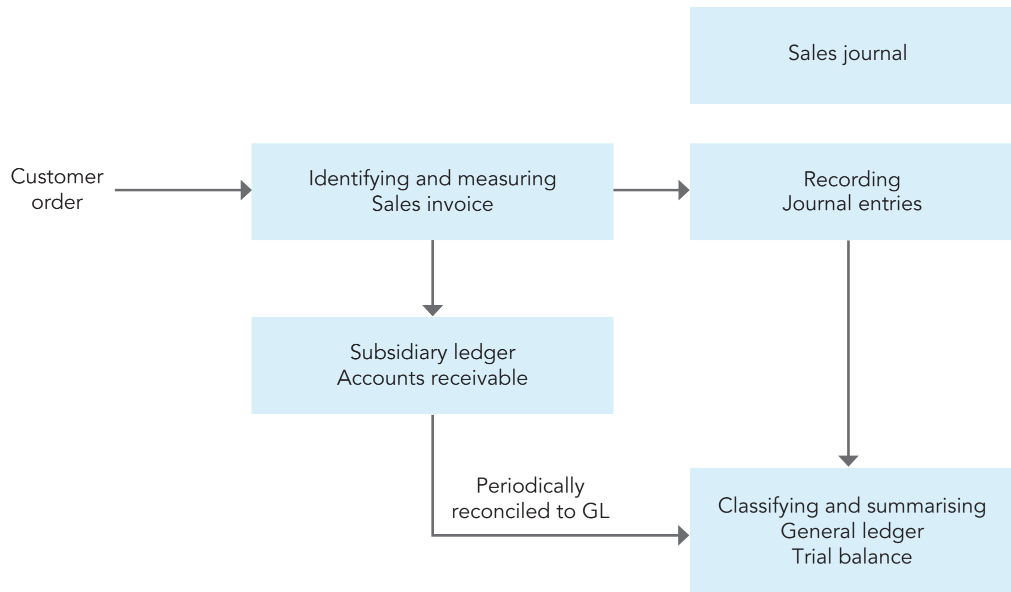

FIGURE 8.2 Flow of information in the accounting system using special journals and subsidiary ledgers

Periodically, information from the business' journals (including the sales journal) is transferred to the general ledger. This information is a summary of the more detailed records contained in the special journals and subsidiary ledgers.

Only a summary of all the information needs to appear in the main accounting system if there are subsystems that contain more detailed records. In Figure 8.2, a general ledger account called accounts receivable (also known as debtors) is supported by some form of detailed record showing how much each debtor owes the company and when he or she is expected to pay. This is the information contained in the subsidiary ledger. It is not much use knowing that you are owed \$900 000 from debtors in total without knowing exactly who owes you what amounts and when you expect them to be received! For example, the \$900 000 in the general ledger may be made up of the following three accounts in the subsidiary debtors' ledger: M. Andrews, \$100 000; T. Blake, \$300 000; and A. Crawford, \$500 000. Whenever one of these

customers buys from the business on credit, that transaction is recorded in the sales journal and the information is used to update the subsidiary ledger.

Refer to the information flow diagrams at Figures 8.1 and 8.2 as you learn more about special journals and subsidiary ledgers.

8.7 Prime entry records: special journals

LO6 The most common transactions undertaken by a business can be recorded in special journals. Typically, special journals are established to record the following transactions:

Special journal	Transactions recorded
Sales journal	Credit sales of inventory
Purchases journal	Credit purchases of inventory
Cash receipts journal	All cash inflows (including cash sales)
Cash payments journal	All cash outflows (including cash purchases)

In a special journal, each entry represents a transaction that belongs to the same class as others in the same journal. These special journals are used in addition to a general journal. Transactions that are not recorded in a special journal are recorded in a general journal (e.g. depreciation, adjustments for prepayments and other accruals).

Apart from recording efficiency, other advantages of special journals are:

- Amounts can be posted from special journals to the general ledger as totals rather than as individual journal entries.
- More than one user can update the accounting system, because it consists of a number of related subsystems. For example, the general ledger, the debtors' subsidiary ledger and the inventory subsidiary ledger could be updated by different individuals.
- The common nature of transactions eliminates the need for narrations.
- Information such as invoice or receipt number may be recorded in special columns provided for the purpose.
- Additional information can be recorded in a particular journal for convenience because it is available from the source document evidencing the transaction. For example, discount expense is generally recorded in the cash receipts journal because it is obtained from the duplicate receipt (which also shows the net amount of cash received).

8.8 Subsidiary ledgers and control accounts

LO6 The most common way of accommodating the need for detailed records in the accounting system, without grossly expanding the number of separate accounts in the general ledger, is to use subsidiary ledgers and control accounts. As already mentioned, a subsidiary ledger is a set of ledger accounts that collectively represents a detailed analysis of one general ledger account classification. The relevant ledger account in the general ledger is known as a control account. The accuracy of the detailed accounts in the subsidiary ledger can be periodically checked against the aggregate data and balance contained in the control account.

Subsidiary ledgers do not form part of the general ledger. They are separate ledgers that show more detail about a general ledger account (such as debtors). Examples of general ledger accounts that have subsidiary ledgers are:

- *debtors/accounts receivable:* a separate account for each debtor
- *creditors/accounts payable:* a separate account for each creditor

- *property, plant and equipment:* separate records of each piece of property, plant and equipment – often called an asset register
- *raw materials inventory:* separate records of each type of raw material held
- *finished goods inventory:* separate records of each type of finished good held.

In each of these examples, the same principle applies. Every entry made to an account in the subsidiary ledger is contained within an aggregate amount in a general ledger control account. It follows that the total of all debit entries made to individual accounts in the subsidiary ledger must be equal to the debits made to the control account. Similarly, all credit entries made will be the same, in aggregate, between the subsidiary ledger and the control account. From this it follows that, at any time, when all required entries have been made in both records, the total of the balance appearing in the accounts in the subsidiary ledger should equal the balance appearing in the control account in the general ledger. If these amounts do not agree, it signals errors in one or both records.

Apart from providing a check on accuracy, subsidiary ledgers enable any desired amount of detail to be maintained to explain the composition of a selected general ledger account, without overloading that ledger. In some cases, subsidiary ledger accounts can include statistical data and written comments as well as dollar values. For example, the subsidiary ledger for equipment will include information beyond original cost and accumulated depreciation. It is likely to also include date of purchase, location in the organisation (e.g. at Burwood factory), an identification number (which is also placed on the equipment for internal control purposes) and, possibly, details of maintenance, warranty and so on.

8.9 Operation of special journals and subsidiary ledgers

To illustrate the operation of accounting systems using special journals and subsidiary ledgers, we will examine their operation for the following transactions: LO7

- credit sales
- credit purchases
- cash receipts
- cash payments.

Credit sales

Exhibit 8.9 shows an extract from a sales journal in a business that uses the perpetual method to record inventory:

EXHIBIT 8.9

SALES JOURNAL

EXAMPLE

		Sales journal			Page S1
Date 2019	**Invoice no.**	**Customer**	**Post ref.**	**COGS**	**Accounts receivable**
July 5	0001	M. Andrews	✓	50 000	100 000
5	0002	T. Blake	✓	150 000	300 000
20	0003	A. Crawford	✓	250 000	500 000
				450 000	900 000
				(104/400)	(102/350)

Had each of the credit sales been recorded in a general journal, each would have appeared as:

		$	$
DR	Accounts receivable	XX	
CR	Sales revenue		XX
DR	COGS	YY	
CR	Inventory		YY

The purpose of special journals is to eliminate the need for such detailed recording in a general journal and the general ledger. Only the total for a suitable period (typically a month in a manual system) is posted to the general ledger. The general ledger account into which the total is posted is called a control account because aggregate amounts are posted to it. These totals are referenced in the general ledger account to the source of the information; in this case, the sales journal. If the sales journal in our example represents all the credit sales for the period, only the total $900 000 would be debited to accounts receivable (account 102) and credited to sales revenue (account 350) and $450 000 debited to COGS (account 104) and credited to inventory (account 400). The amounts are posted directly from the sales journal; there is no need to record the information again in a general journal.

A subsidiary ledger account might be established for each customer who buys on credit. The individual accounts in the debtors' ledger can be kept up to date by posting each line of the sales journal to the appropriate account in the subsidiary ledger. For example, the first entry in the sales journal shown earlier is recorded in the subsidiary ledger as a debit to the account of M. Andrews, the second to T. Blake and the third to A. Crawford. Part of this process is illustrated at Exhibit 8.10: note that the accounts for Blake and Crawford are not shown, but would be updated in a similar manner. The use of the posting reference S1 in the ledger accounts indicates that the information in these accounts comes from page S1 of the sales journal. The tick in the posting reference column of the sales journal indicates that the amount has been posted to the subsidiary ledger.

At the end of the period, the total of the subsidiary ledgers can be checked against the balance of the accounts receivable control account. That is, if we add up the balance in the accounts for Andrews, Blake and Crawford, it should agree with the balance of the accounts receivable control account.

Credit purchases

In its simplest form, the purchases journal is only used for recording the acquisition of goods, on credit, that are intended for resale. The relevant source document is the purchase invoice from the supplier, which is matched against the delivery docket and a copy of the official purchase order to ensure that the goods have been delivered in a satisfactory condition and that the agreed price has been charged.

Assume that the following credit purchases of furniture for resale were made during July 2019:

2019		$
July 2	P. Renton	1 400
4	J. Quincy	320
18	R. Lemon	3 500

The purchases journal is illustrated in Exhibit 8.11.

In this case, note that P. Renton and J. Quincy expect payment within 30 days (their payment terms are n/30 and no discount is available for early payment). R. Lemon allows a discount of 2 per cent if payment is received within 10 days; otherwise, the net amount is expected within 30 days of purchase. Because we're not certain that payment will be made within the discount period, the full amount owing is recorded in the journal, not 98 per cent of $3500. If we do qualify for the discount, our obligation of $3500 is satisfied and the discount received ($70) adjusts the amount of cash eventually paid to R. Lemon ($3430).

EXHIBIT 8.10

CREDIT SALES

RECORDING CREDIT SALES IN A SALES JOURNAL AND POSTING TO SUBSIDIARY AND GENERAL LEDGERS

Sales journal

Date 2019	Invoice no.	Customers	Post ref.	Cost of goods sold	Accounts receivable
July 5	0001	M. Andrews	✓	50 000	100 000
5	0002	T. Blake	✓	150 000	300 000
20	0003	A. Crawford	✓	250 000	500 000
				450 000	900 000
				(104/400)	(102/350)

Post daily

Post monthly

Accounts receivable subsidiary ledger

M. Andrews

Date	Post ref.	Debit	Credit	Balance
July 5	S1	100 000		100 000 DR

General ledger

Account receivable control 102

Date	Post ref.	Debit	Credit	Balance
July 31	S1	900 000		900 000 DR

Sales 350

Date	Post ref.	Debit	Credit	Balance
July 31	S1		900 000	900 000 CR

Cost of goods sold 104

Date	Post ref.	Debit	Credit	Balance
July 31	S1	450 000		450 000 DR

Inventory control 400

Date	Post ref.	Debit	Credit	Balance
		600 000		600 000 DR
July 31	S1		450 000	150 000 DR

As with the sales journal, subsidiary ledgers are updated each day for each creditor and for each item of inventory. In Exhibit 8.11, only the account of P. Renton is shown; a similar process would be followed to update the accounts of J. Quincy and R. Lemon in the subsidiary ledger. The inventory subsidiary ledger is not shown.

At the end of the period, the inventory control account in the general ledger is debited with the total of $5220 and the creditors' account is correspondingly credited. Alternative treatments for the recording of inventories are discussed in Chapter 9.

EXHIBIT 8.11 CREDIT PURCHASES

RECORDING CREDIT PURCHASES IN A PURCHASES JOURNAL AND POSTING TO SUBSIDIARY AND GENERAL LEDGERS

Purchases journal

Date 2019	Suppliers	Post ref.	Terms	Accounts payable
July 2	P. Renton	✓	n/30	1 400
4	J. Quincy	✓	n/30	320
18	R. Lemon	✓	2/10, n/30	3 500
				5 220
				(104/200)

Post daily

Post monthly

Accounts payable subsidiary ledger

P. Renton

Date	Post ref.	Debit	Credit	Balance
July 2	**P1**		1 400	1 400 CR

General ledger

Accounts payable control **200**

Date	Post ref.	Debit	Credit	Balance
July 31	**P1**		5 220	5 220 CR

Inventory control **104**

Date	Post ref.	Debit	Credit	Balance
July 31	**P1**	5 220		5 220 DR

Credit transactions involving the acquisition of fixed assets or items to be charged to expense accounts, such as repairs, maintenance, printing and stationery, are often recorded in a general journal. However, the above purchases journal can easily be expanded to include columns for other items, if they occur frequently.

Cash receipts

The source document providing evidence of a cash receipt is usually a duplicate of the receipt given to a customer to acknowledge payment. Alternatively, a list of cheques received or a direct deposit recorded on a bank account statement can serve as the source document.

A cash receipts journal is designed to meet the specific needs of an organisation, so analysis columns are created for the types of cash inflow that occur most frequently. In most businesses, these are likely to include payments received from debtors and, possibly, cash sales. In addition to specific analysis columns, there is also a need for a sundry or miscellaneous column for cash receipts not otherwise identified by a specific column that represents a particular general ledger account. Examples of sundry cash receipts include proceeds from the sale of fixed assets, refunds by creditors and new capital or mortgage funding. If a cash discount is allowed to debtors, a discount expense column is typically included in the cash receipts journal.

Exhibit 8.12 illustrates the process of recording and posting information about cash receipts. In contrast to the sales and purchases journals, separate columns are used to represent the debit and credit sides of transactions.

EXHIBIT 8.12

CASH RECEIPTS

RECORDING CASH RECEIPTS IN A CASH RECEIPTS JOURNAL AND POSTING TO SUBSIDIARY AND GENERAL LEDGERS

Cash receipts journal

Date 2019	Description	Post ref.	Cash at bank Debit	Discount allowed Debit	Cash sales Credit	Accounts receivable Credit
July 3	Sales	✓	50 000		50 000	
14	M. Andrews	✓	100 000			100 000
28	A. Crawford	✓	490 000	10 000	–	500 000
			640 000	10 000	50 000	600 000
			(101)	(478)	(350)	(102)

Post daily

Post monthly

Accounts receivable subsidiary ledger

M. Andrews

Date	Post ref.	Debit	Credit	Balance
July 5	S1	100 000		100 000 DR
July 14	CR1		100 000	–

General ledger

Cash at bank

Date	Post ref.	Debit	Credit	Balance
July 31	CR1	640 000		640 000 DR

Sales 350

Date	Post ref.	Debit	Credit	Balance
July 31	S1		900 000	900 000 CR
July 31	CR1		50 000	950 000 CR

Discount allowed 478

Date	Post ref.	Debit	Credit	Balance
July 31	CR1	10 000		10 000 DR

Account receivable control 102

Date	Post ref.	Debit	Credit	Balance
July 31	S1	900 000		900 000 DR
	CR1		600 000	300 000 DR

The 3 July entry represents a cash sale. In this case, the debit and credit amounts are equal. The next two entries represent the receipt of amounts owing from customers. These amounts were previously recorded in the sales journal. Assuming that we offer discount terms of 2/10, n/30, A. Crawford qualifies for a discount and only pays $490 000 of the $500 000 owing. The balance is a financial expense of the business known as discount allowed.

No sundry accounts were affected by cash receipts during the period. If they had been, each item would be individually posted to the relevant general ledger account. The column total can't be posted because the amount represents the impact of transactions on a number of general ledger accounts.

In addition to the postings to the general ledger, each item appearing in the debtors' column is posted as a credit to the account of the particular debtor in the debtors' subsidiary ledger. Note that the account for A. Crawford is not shown in the subsidiary ledger.

Cash payments

The source document for cash payments is usually a duplicate of a cheque or a cheque butt. There is usually supporting evidence such as statements and invoices from creditors, a receipt issued by the recipient or a payroll analysis certified as correct by a responsible staff member. The bank statement provides evidence of the amount of interest charged on any overdraft, together with information about other bank charges and fees.

In its simplest form, the cash payments journal comprises one column which lists the amounts of the cheques drawn by the business against its bank account. However, to minimise postings and to provide an analysis of payments, separate columns may be provided to record entries affecting those ledger accounts frequently involved. A sundry or miscellaneous column is necessary for those amounts which are to be posted to accounts for which there is no specific analysis column.

In the cash payments journal illustrated in Exhibit 8.13, the amount of each payment is recorded in the cash at bank column and then entered, according to the nature of the payment, either in one of the analysis columns or divided over more than one column. For payments to creditors, the amount paid is entered into the bank column and any discount received is entered in the discount received column. The total of these two amounts is then entered in the creditors' (accounts payable) column: this is the total amount by which accounts payable has decreased. The individual names of creditors are also included so the entry can be used to update the creditors' subsidiary ledger. Thus, when the journal is totalled at the end of each period, the aggregate of the bank and discount revenue columns should equal the sum of the totals of all the analysis columns, including the sundry column. This reflects the double entry analysis of cash payments, which, in all cases, involves a credit to bank or discount revenue and a corresponding debit to some other account.

In this case, postings to the general ledger occur as follows:

1 Debit each account for which there is a specific analysis column with the total of that column.
2 Debit each account for which there is an individual entry in the sundry column with the amount of that entry. Do not post the total of the sundry column.
3 Credit bank with the total of the bank column.
4 Credit the discount received account for the amount of the discount received.

It should be noted that it makes no difference in the double-entry system whether bank is an asset or a liability (because it is in overdraft). In either case, a cash payment is a credit because it either reduces the bank asset or increases the bank overdraft liability.

In general, it is desirable in all books of prime entry (journals) to provide a reference to the source document for each entry. In the cash payments journal, this is usually done by recording the cheque number associated with each payment. This also facilitates preparation of bank reconciliation statements (covered in Chapter 7).

In addition to the postings to the general ledger made at the end of the period, each individual item in the accounts payable column will be posted as a debit to the relevant individual creditor's account in the creditors' ledger on a daily basis.

EXHIBIT 8.13

CASH PAYMENTS

RECORDING CASH PAYMENTS IN A CASH PAYMENTS JOURNAL AND POSTING TO SUBSIDIARY AND GENERAL LEDGERS

Cash payments journal

Date 2019	Description	Post ref.	Cheque no.	Cash at bank Credit	Discount received Credit	Salaries Debit	Sundries Debit	Accounts payable Debit
July 3	Salaries	✓	501	2 500		2 500		
14	Telephone	424	502	270			270	
28	R. Lemon	✓	503	3 430	70			3 500
				6 200	70	2 500	270	3 500
				(101)	(351)	(420)	(–)	(200)

Post daily

Post monthly

Accounts payable subsidiary ledger

R. Lemon

Date	Post ref.	Debit	Credit	Balance
July 5	P1		3 500	3 500 CR
July 28	CP1	3 500		–

General ledger

Cash at bank 101

Date	Post ref.	Debit	Credit	Balance
July 31	CR1	640 000		640 000 DR
July 31	CP1		6 200	633 800 DR

Accounts payable control 200

Date	Post ref.	Debit	Credit	Balance
July 31	P1		5 220	5 220 CR
		3 500		1 720 CR

Discount received 351

Date	Post ref.	Debit	Credit	Balance
July 31	CP1		70	70 CR

Salaries expense 420

Date	Post ref.	Debit	Credit	Balance
July 31	CP1	2 500		2 500 DR

Telephone expense 424

Date	Post ref.	Debit	Credit	Balance
July 31	CP1	270		270 DR

8.10 Role of general journal and general ledger

LO6 Most of an organisation's transactions are recorded in special journals. There is, however, still a role for a general journal. A general journal is used to record a number of important transactions, such as:

- sales and purchase returns
- credit transactions other than those related to inventory, such as the purchase of equipment
- adjusting entries
- closing entries.

As we have already seen, each entry in a general journal is individually posted to the appropriate account in the general ledger. At the end of a period, all financial information will be posted to the general ledger, either as an individual entry sourced from a general journal (or from a sundry column in a special journal) or in aggregate form from the columns of the various special journals.

Once all the financial information has been posted to the general ledger, the reporting process represented in Figure 8.1 can begin and the accounting cycle can start again.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Estimation of allowance for doubtful debts

The CFO of Olaf Limited has prepared a schedule based on her past experience indicating the following percentages of accounts receivable that have been written off as bad.

Age category	Percentage
Not yet due	1
1–30 days overdue	3
31–60 days overdue	10
61–90 days overdue	25
Over 90 days overdue	50

The present balance of the allowance for doubtful debts is $1000 CR. As at 30 June, the ageing of accounts receivable revealed the following:

Not yet due	$95 000
1–30 days overdue	$25 000
31–60 days overdue	$11 000
61–90 days overdue	$ 4 000
Over 90 days overdue	$ 2 000

1 Prepare a schedule of ageing of accounts receivable to determine the desired closing balance of allowance for doubtful debts.
2 Prepare the journal entry to record the closing balance of allowance for doubtful debts.

PRACTICE PROBLEM B

Reconciliation of subsidiary ledgers with control accounts

M. King Ltd, wholesaler, maintains subsidiary ledgers for debtors and creditors. The general ledger trial balance at 1 January 2019 is as set out below.

M. KING LTD
TRIAL BALANCE AS AT 1 JANUARY 2019

	$	DR $	CR $
Share capital			20 000
Creditors:			
Adler	1 000		
Barnes	800		1 800
Mortgage loan			10 000
Bank		2 000	

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Debtors:			
Xavier	400		
Young	800		
Zoeller	900	2 100	
Inventory		4 000	
Premises		18 000	
Fixtures and fittings		5 700	
		31 800	31 800

TRANSACTIONS FOR THE MONTH OF JANUARY

Sales journal	Sales $	COGS $	Purchases journal	$
Young	300	100	Barnes	1 600
Zoeller	600	300	Adler	5 000
Xavier	700	350		
	1 600	750		6 600

CASH RECEIPTS JOURNAL

	Debtors $	Sundry $	Bank $
Rent		3 000	3 000
Young	800		800
Zoeller	300		300
Dividends		4 000	4 000
Xavier	400		400
	1 500	7 000	8 500

CASH PAYMENTS JOURNAL

	Creditors $	Sundry $	Bank $
Salaries expense		700	700
Barnes	800		800
Rent expense		400	400
Adler	600		600
	1 400	1 100	2 500

1 Post from the journals to the general ledger and to the debtors' and creditors' subsidiary ledgers.
2 Prepare supporting schedules of debtors and creditors at 31 January 2019 and agree with the balances in the control accounts.

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 Provide examples of accounts that would be included under the heading 'Receivables' in the balance sheet.
2 What is the difference between accounts receivable and accrued revenue?
3 Which of the following companies is likely to have low accounts receivable in comparison to total sales: Woolworths, Coca-Cola and QBE Insurance?
4 What is the difference between a bad debt and a doubtful debt?
5 Why do companies have an allowance for doubtful debts?
6 Outline the income statement approach to calculating the bad debts expense.
7 Outline the balance sheet approach to calculating the allowance for doubtful debts. What is an important step to remember in this approach?
8 What purposes are served by special journals? What control information could be made more readily available to management as a result of their use?
9 What considerations determine whether a special journal should be brought into use rather than placing entries in the general journal? Is the need for a general journal ever eliminated?
10 On what should you base your selection of the special analysis columns to be included in the cash payments journal?
11 Why should the sale of a fixed asset not be recorded in a simple sales journal?
12 Which special journal handles the following types of transactions?
  a cash sales
  b credit sales
  c receipts from debtors
  d payments to creditors
  e cash purchases
  f credit purchases
13 What is the purpose of a subsidiary ledger?
14 What are the advantages of a subsidiary ledger?
15 If a customer's account in the debtors' ledger shows a credit balance, does this necessarily indicate that an error has been made?
16 Does the double-entry principle of an equal value of debits and credits in the system cease to apply when subsidiary ledgers are being employed?
17 'Subsidiary ledgers involve unnecessary duplication, increase the opportunity for error and involve a breach of the double-entry principle. Under no circumstances can their use be justified.' Comment critically.

PROBLEMS

PROBLEM 8.1

Revision of revenues and expenses (including bad debts)

ADELAIDE LTD
BALANCE SHEET AS AT 31 DECEMBER 2018

	$		$
Assets		**Liabilities**	
Cash	168 000	Accounts payable	200 000
Accounts receivable (net of allowance of $12 000)	312 000	Wages payable	16 000
		Unearned revenue	256 000
Inventory	320 000	**Total current liabilities**	472 000
Prepaid rent expense	88 000	Long-term debt	0
Total current assets	888 000	**Total liabilities**	472 000
Land	1 520 000	**Shareholders' equity**	
Equipment	3 200 000	Share capital	4 240 000
Less accumulated depreciation	(640 000)	Retained profits	256 000
Total noncurrent assets	4 080 000	**Total shareholders' equity**	4 496 000
Total assets	4 968 000	**Total liabilities and shareholders' equity**	4 968 000

The following transactions occurred during the year ended 31 December 2019 for Adelaide Ltd:

a Issued share capital for $300 000 cash.
b Expiration of prepaid rent expense (i.e. prepaid rent expense balance to zero).
c Purchased $70 000 of inventory on credit.
d Paid $56 000 to accounts payable.
e Sold inventory costing $120 000 for $340 000. All sales are on credit.
f Collected $106 000 from accounts receivable.
g Depreciated equipment for the year using the straight-line method (10 per cent per annum).
h Dividends paid totalled $50 000.
i Borrowed $150 000 on 1 January 2019. The loan is due on 30 June 2021 and carries a 10 per cent per annum interest rate. Paid $13 000 interest on this loan during the year ended 31 December 2019.
j On 1 April paid $30 000 for an insurance policy covering 1 April 2019 to 31 March 2020.
k Paid wages of $160 000; wages of $30 000 had been earned but not paid to the first pay period in 2019.
l Is owed $9500 in interest from the bank at year-end.
m Wrote off a bad debt for Sydney Ltd for $3000 as the company went into bankruptcy. Increased the allowance for doubtful debts to $13 000.
n At 31 December 2019 the unearned revenue account balance had reduced to $5000.

Required:

1 List all revenues (including dollar amounts) that will appear in the income statement for the year ended 31 December 2019.
2 List all expenses (including dollar amounts, ignoring taxation) that will appear in the income statement for the year ended 31 December 2019.
3 List all current assets at 31 December 2019 (including dollar amounts).

PROBLEM 8.2

Adjustments – accounting equation

Goose Ltd operates three motels in large country centres. The accounts for the year ended 30 June 2019 have been finalised, with the exception of any adjustments that may result from the following:

a Bonuses due to the motel managers totalling $18 000 have not yet been recorded.

b On 1 October 2018, a comprehensive insurance policy covering building and contents was taken out for the year ended 30 September 2019, the annual premium of $4800 being paid on 1 November 2018.

c Interest on investments amounting to $450 is due but has not yet been received.

d A payment of $900 for embossed stationery was charged, in error, to the advertising account.

e The accounts receivable balance is $171 500. Allowance for doubtful debts is $7000. Bad debts of $350 are to be written off. Allowance for doubtful debts is to be adjusted to stand at 6 per cent of accounts receivable.

f An amount of $4500 spent on a laptop computer was charged to the office expenses account instead of the office equipment account.

g In May, commission of $360 was received in advance for the six months ending 31 October 2019.

h At 30 June 2019, accrued electricity charges were $292.

Required:

1 Show the impact of each transaction on the accounting equation.

2 Provide journal entries.

PROBLEM 8.3

Impact of transactions on financial statements

Management of Sarah Limited are interested in the directional effect (i.e. increase, decrease or no effect) on net profit before tax and total assets for the year ended 30 June 2019, if the following occurred from January to June 2019.

1 Paying back a loan of $200 000.

2 Purchasing inventory of $150 000 on credit.

3 Receiving $10 000 for a job to be done in July.

4 Making sales of $200 000 on credit for goods that cost $80 000.

5 Changing the depreciation policy by reducing the estimated life of certain equipment.

6 Prepaying insurance on 30 June 2019 for $50 000. The policy covers the year commencing July 2019.

7 Increasing the allowance for doubtful debts by $100 000.

8 Interest revenue is accrued at 30 June, and is $5000.

9 Accounts receivable totalling $12 000 are found to be uncollectable. The current balance of allowance for doubtful debts is $100 000.

PROBLEM 8.4

Calculate bad debt expense and allowance for doubtful debts

Windjammer Technologies Ltd has been having difficulty collecting its accounts receivable. For the year 2019, the company increased the allowance for doubtful accounts by $53 000, bringing the balance to $74 000. At the end of 2019, accounts receivable equalled $425 000. When the year-end audit was being done, it was decided to provide a further $45 000 of accounts receivable that were doubtful, and write off $30 000 of accounts receivable previously deemed doubtful.

Calculate the following:

1 bad debts expense for 2019

2 allowance for doubtful debts at the end of 2019

3 estimated collectable value of accounts receivable at the end of 2019.

PROBLEM 8.5

Questions about accounts receivable and doubtful accounts

Dragon Designs Ltd had the following general ledger accounts for last year, using the T-account format. All the company's sales are on credit to retail stores across the country. The first amount in each account is the balance at the beginning of the year; the last amount, under the solid line, is the balance at the end of the year. Other amounts are transactions and adjustments during the year.

Accounts receivable		Allowance for doubtful debts		Bad debts expense	
Op. 244 620			Op. 11 914	Op. 0	
1 693 784	1 599 005		9 117	9 117	
	8 293	8 293			
Cl. 331 106			Cl. 12 738	Cl. 9 117	

1 What was the company's revenue for the year?
2 How much was collected on account of revenue for the year?
3 How much of the uncollected revenue did the company give up on during the year?
4 What was the expense the company incurred from taking the risk of extending credit to customers during the year?
5 What was the estimated collectable value of the accounts receivable at the end of the year?
6 What was the estimated collectable value of the accounts receivable before the year-end write-off of uncollectable accounts?

PROBLEM 8.6

Doubtful debts

OJ Ltd has been having difficulty collecting its accounts receivable. For the year 2019, the company increased the allowance for doubtful accounts by $48 000, bringing the balance to $70 000. At the end of 2019, accounts receivable equalled $425 000. When the year-end audit was being done, it was decided to provide for another $50 000 of accounts receivable that were doubtful and write off $32 000 of accounts receivable previously deemed doubtful.

Calculate the following:

1 bad debts expense for 2019
2 allowance for doubtful debts at the end of 2019
3 estimated collectable value of accounts receivable at the end of 2019.

PROBLEM 8.7

Doubtful debts

On 1 July 2018, Morton Limited had accounts receivable of $53 000 and an allowance for doubtful debts of $3100. During the year ended 30 June 2019, credit sales amounted to $432 500 and cash collected from customers was $417 400. At the end of the financial year, the credit manager decided that accounts totalling $1200 should be written off as bad debts and the allowance for doubtful debts increased to $4200.

1 What was the estimated collectable value of accounts receivable as at 30 June 2019?
2 What was the amount of the bad debts expense for the year ended 30 June 2019?
3 What are the main reasons for using the allowance method of accounting for bad debts rather than the direct write-off method?

PROBLEM 8.8

Adjusting entries and financial statements

The trial balance shown below has been extracted from the general ledger of R. James Electronics Ltd at 30 June 2019. The following facts came to light after the trial balance was completed:

- a Investigation of a credit balance in a debtor's account in the subsidiary ledger showed that a credit sale of goods in May for $800 had not been recorded.
- b The last day of the period, 30 June 2019, was a Wednesday. The staff are paid on Friday for a five-day working week that ends on Friday. Sales salaries are $2035 per week and office salaries are $475 per week.
- c Electricity expenses of $350 have been incurred, but not billed and not recognised. Telephone expenses of $200 have been incurred (in respect of calls) during June, but not recognised.
- d Rent expense includes an amount of $600 prepaid for the first two weeks of July 2019.
- e Depreciation of $2400 is to be charged on office equipment and depreciation of $2805 is to be charged on demonstration equipment.
- f Interest on a loan is at the rate of 12 per cent per annum, payable quarterly in advance on the last day of each quarter. The loan was made on 1 October 2018.
- g Bad debts of $700 are to be written off, and the allowance for doubtful debts is to be 2 per cent of debtors.

	Debit $	Credit $
Debtors	407 700	
Advertising	81 800	
Electricity	5 400	
Office equipment	24 000	
Postage and telephone	9 300	
Inventory	145 000	
Cost of goods sold	689 900	
Loans		160 200
Allowance for doubtful debts		8 800
Rent	16 000	
Sales salaries	105 800	
Office salaries	24 800	
Sales		1 105 800
Accumulated depreciation:		
Sales demonstration equipment		3 300
Office equipment		4 800
Sales demonstration equipment	22 000	
Share capital		50 000
Retained profits		61 500
Long-term loan		160 000
Interest on loan	19 200	
General office expenses	3 500	
	1 554 400	1 554 400

1. Prepare general journal entries for any period-end adjustments for the above items.
2. Prepare an income statement for the year ended 30 June 2019.
3. Prepare a balance sheet as at 30 June 2019, suitably classified.

PROBLEM 8.9

Calculate accrual net profit from various accounts

West Sonoma Ltd has just finished its 2019 financial year. From the following data, calculate net profit.

	$
Collections from credit customers during 2019	174 320
Accounts receivable, end of 2018	11 380
Accounts receivable, end of 2019	9 440
Allowance for doubtful debts, end of 2018	2 990
Allowance for doubtful debts, end of 2019	1 130
Bad debts written off during 2019	520
Payments to suppliers and employees during 2019	165 690
Accounts and wages payable, end of 2018	12 770
Accounts and wages payable, end of 2019	13 350
Inventory of unsold goods, end of 2018	21 340
Inventory of unsold goods, end of 2019	24 650
Bank loan, end of 2019	24 000

The loan was taken out a month before the end of 2019 at an interest rate of 8 per cent. No interest has yet been paid, before tax, for 2019.

PROBLEM 8.10

Doubtful debts

Peakhurst Limited had the following trial balance at 1 January 2019:

	Debit $	Credit $
Cash	200 000	
Accounts receivable	600 000	
Inventory	700 000	
Prepaid insurance	60 000	
Prepaid rent	50 000	
Equipment	1 000 000	
Allowance for doubtful debts		20 000
Accumulated depreciation		200 000
Accounts payable		500 000
Revenue received in advance		100 000
Income tax payable		500 000
Loan		570 000
Share capital		400 000
Retained profits		320 000
	2 610 000	2 610 000

You are given the following additional information for the year ended 31 December 2019:

a Bad debts of $8000 were written off.

b It was decided that allowance for doubtful debts should be 4 per cent of accounts receivable.

Required:

1 Prepare journal entries for these transactions.
2 Show the ledger accounts for the following for the year ended 31 December 2019:
   a accounts receivable
   b allowance for doubtful debts
   c bad debts expense

PROBLEM 8.11

Income statement approach

Smarkly Limited uses the income statement approach to account for bad debts and allowance for doubtful debts. The following information is available:

1 Past experience suggests that 1 per cent of net credit sales will become uncollectable.
2 Credit sales for the year ended 30 June 2019, $3 200 000.
3 Cash sales for the year ended 30 June 2019, $700 000.
4 Bad debts written off during the year ended 30 June 2019, $17 000.
5 Present balance of allowance for doubtful debts account, $21 000.

Prepare the necessary journal entry or entries to account for bad debts for the year ended 30 June 2019. Show all workings.

PROBLEM 8.12

Balance sheet approach

Sprintay Limited uses the balance sheet approach to account for its bad debts expense and allowance for doubtful debts. Past experience indicates the following percentages of accounts receivable that have been written off as bad.

Age category	Percentage
Not yet due	1
1–30 days	3
31–60 days	15
61–90 days	35
Over 91 days overdue	60

As at 30 June 2019, the ageing of accounts receivable revealed the following:

Not yet due	$85 000
1–30 days	$25 000
31–60 days	$ 9 000
61–90 days	$ 5 000
Over 91 days overdue	$ 2 000

At present the allowance for doubtful debts ledger account is as follows:

Date	Details	Debit	Credit	Balance
1 July 2018	Opening balance			4 100 CR
15 September 2018	Accounts receivable	1 800		2 300 CR
27 November 2018	Accounts receivable	900		1 400 CR
15 March 2019	Accounts receivable	1 200		200 CR
19 June 2019	Accounts receivable	500		300 DR

Prepare the necessary journal entry or entries to record bad debts expense for the year ended 30 June 2019. Show all workings.

PROBLEM 8.13

Comprehensive example including a multi-column worksheet

Psyche Books Ltd is a bookshop specialising in psychology textbooks. Psyche Books has the following balance sheet as at 30 September 2019:

Account name	Account no.		$
Assets			
Current assets			
Cash	1010		106 000
Accounts receivable	1020		147 000
Allowance for doubtful debts	1030		(14 400)
Inventory	1040		251 000
Prepaid insurance	1050		12 000
Prepaid rent	1060		45 000
Noncurrent assets			
Buildings	1100	1 400 000	
Accumulated depreciation – buildings	1105	(175 000)	1 225 000
Motor vehicle	1200	45 000	
Accumulated depreciation – motor vehicle	1205	(9 000)	36 000
Total assets			1 807 600
Liabilities			
Current liabilities			
Accounts payable	2010		94 000
Interest payable	2020		48 000
Income tax payable	2030		47 000
Salaries payable	2040		25 000
Provision for employee entitlements	2050		14 000
Accrued expenses	2060		12 400
Noncurrent liabilities			
Bank loan	2100		900 000
			1 140 400
Shareholders' equity			
Share capital	3010		400 000
Retained earnings	3020		267 200
Total liabilities and equity			1 807 600

Additional information:

1. Psyche Books uses perpetual inventory systems and all its textbooks are sold at a 30 per cent mark-up.
2. Buildings are depreciated at 2.5 per cent p.a.
3. Motor vehicle has a useful life of 10 years and is depreciated using the straight-line method.

Psyche Books uses the following chart of accounts:

Account name	Account no.	Account name	Account no.
Cash	1010	Share capital	3010
Accounts receivable	1020	Retained earnings	3020
Allowance for doubtful debts	1030	Sales	4000
Inventory	1040	COGS	5010
Prepaid insurance	1050	Interest expense	5020
Prepaid rent	1060	Income tax expense	5030
Prepaid advertising	1070	Salaries expense	5040
Buildings	1100		
Accumulated depreciation – buildings	1105	Sundry expenses	5060
Motor vehicle	1200		
Accumulated depreciation – motor vehicle	1205	Advertising expense	5070
Accounts payable	2010	Insurance expense	5080
Interest payable	2020	Rent expense	5090
Income tax payable	2030	Bad debts expense	5100
Salaries payable	2040	Inventory devaluation expense	5110
Provision for employee entitlements	2050	Depreciation expense – buildings	5120
Accrued expenses	2060	Depreciation expense – motor vehicle	5130
Bank loan	2100	Profit and loss summary	6000

The following events took place in October 2019:

01 October	Paid salaries.
03 October	Paid accrued expenses in full.
06 October	Credit sales, $78 650.
07 October	Cash sales for the week amounted to $17 849.
08 October	Paid interest on bank loan, as well as $12 000 towards the principal.
11 October	Paid $2000 for an advertisement in a local newspaper. The advertisement is going to be published every Saturday for 8 weeks, starting on 13 October.
12 October	Received $109 456 from debtors.
14 October	Cash sales for the week amounted to $9815.
15 October	Paid $86 250 to creditors.
16 October	Ordered $117 920 worth of inventory.
18 October	Credit sales, $104 546.
21 October	Received the order placed on 16 October. Cash sales for the week amounted to $1534.
25 October	Accounts receivable of $14 230 were established to be uncollectable and were written off.
28 October	Paid income tax to ATO in full. Cash sales for the week amounted to $819.
29 October	Received $86 000 from debtors.
30 October	One of Psyche Books’ employees decided to take his annual leave; he was paid $5500.

At the end of the month the following events occurred:

- a Some of the stock of Psyche Books was recorded at $5000 but was established to have a net realisable value of $200.
- b Interest on bank loan accrued at the end of the month is $46 000.
- c Depreciation was charged to the buildings and motor vehicle at the end of the month.
- d Monthly rent for Psyche Books' head office was $5000 and is payable on the first of every month in advance.
- e Prepaid insurance was originally for two years, purchased on 1 January 2019.
- f The company policy is to keep allowance for doubtful debts at the end of the month equal to 3 per cent of total credit sales for the month.
- g Owed salaries at the end of the month, $22 500.
- h Electricity charges for the month are estimated to be $2760; phone charges for the month are estimated to be $8900.

Required:

1. Prepare journal entries for the above transactions.
2. Enter the opening balances in the ledger accounts and post the journal entries to the ledger.
3. Prepare a 10-column worksheet.
4. Prepare and post the adjusting entries. Enter these entries into the worksheet.
5. Prepare pre-closing trial balance at 31 October 2019.
6. Prepare closing entries.
7. Prepare post-closing trial balance.
8. Prepare an income statement for the month of October 2019 and a balance sheet as at 31 October 2019.

PROBLEM 8.14

Preparation of control accounts

Smithers Ltd, a manufacturer, maintains subsidiary ledgers for creditors and debtors. At 30 June 2019, the total amount owing to the business by trade debtors amounted to $4850 and the total amount owed by the business to its suppliers amounted to $3976.

The following is a summary of the transactions for the month of July 2019.

	$
Credit sales	8 626
Cash sales	2 374
Credit purchases	6 945
Cash received from debtors	9 673
Cash paid to creditors	6 575
Cash purchases	1 600
Discount received from creditors	56
Discount allowed to debtors	78
Creditors charged interest on overdue accounts	25
Freight paid and charged to debtors	22

Prepare the debtors and creditors control accounts, as they would appear in the general ledger, and bring down the balances as at 31 July 2019. Disregard any transactions that do not relate to either of these accounts.

PROBLEM 8.15

Preparation accounting for cash and receivables

Hardy Ltd provides cruise tours for seniors. Hardy Ltd provides these tours to four tour providers: A Ltd, F Ltd, N Ltd and Y Ltd.

The following was extracted from the schedule of debtors:

	2018 $	2019 $
A Ltd	(a)	29 432
F Ltd	65 147	94 564
N Ltd	(b)	47 733
Y Ltd	29 924	(c)

The following was extracted from the sales journal:

Particulars	Invoice No.	Accounts receivable $
A Ltd	0501	25 365
F Ltd	0502	(d)
N Ltd	0503	15 000
N Ltd	0504	21 463
A Ltd	0505	51 156
N Ltd	0506	11 270

The following was extracted from the cash receipts journal:

Particulars	Accounts receivable $
A Ltd	30 000
Y Ltd	9 924
F Ltd	15 677
N Ltd	24 376
A Ltd	22 365
F Ltd	23 742
A Ltd	19 050

The following information is also available (before any write-offs):

	2018 $	2019 $
Total cash receipts	289 563	350 742
Accounts receivable control	(e)	191 729
Total credit sales	251 764	(f)
Allowance for doubtful debts	7 552	(g)
Bad debts expense	14 372	(h)

No further sales were made during the year to Y Ltd, and it was decided at the end of the year that his remaining account would be written off against the allowance for doubtful debts. The closing balance of the allowance for doubtful debts for 2019 is 3 per cent of total credit sales for the year.

1 Calculate the missing figures (a) to (h). Show all workings.
   a A Ltd (opening balance)
   b N Ltd (opening balance)
   c Y Ltd (closing balance – before write-off)
   d F Ltd (sales)
   e Accounts receivable control (opening balance)
   f Total credit sales for 2019
   g Allowance for doubtful debts for 2019 (closing balance)
   h Bad debts expense for 2019
2 Using the general journal format, complete the following journal entries (as at the end of 2019):
   a Write off the remaining balance of Y Ltd's account.
   b Recognise the bad debts expense for the year.

PROBLEM 8.16

Specialised journals

Adrenaline Ltd provides tours for adventurers, such as mountain climbing, bungee jumping, whale watching and white-water rafting. Adrenaline Ltd provides these tours to four tour providers: Anna, Fred, Natalie and Yuki. All sales are on credit.

The following was extracted from the schedule of debtors:

	2018 $	2019 $
Anna	(a)	32 432
Fred	56 841	89 577
Natalie	(b)	48 830
Yuki	28 674	(c)

The following was extracted from the sales journal:

Particulars	Invoice no.	Accounts receivable $
Anna	0501	26 653
Fred	0502	(d)
Natalie	0503	14 978
Natalie	0504	23 286
Anna	0505	53 561
Natalie	0506	10 060

The following was extracted from the cash receipts journal:

Particulars	Accounts receivable $
Anna	30 220
Yuki	10 249
Fred	14 788
Natalie	25 763
Anna	23 356
Fred	24 427
Anna	19 016

The following information is also available (before any bad debt write-offs):

	2018 $	2019 $
Accounts receivable control	(e)	189 264
Total credit sales	266 067	(f)
Allowance for doubtful debts	7 982	(g)
Bad debts expense	14 372	(h)

No further sales were made during the year to Yuki, and it was decided at the end of the year that his remaining account would be written off against the allowance for doubtful debts.

The closing balance of the allowance for doubtful debts for 2018 is 3 per cent of total credit sales for the year.

1 Calculate the missing figures (a) to (h). Show all workings.
2 Complete the journal entries related to the allowance for doubtful debts account.

PROBLEM 8.17

Specialised journals and subsidiary ledgers

Jupiter Ltd uses multi-column cash receipts and cash payments journals, and maintains control accounts for accounts receivable and accounts payable, supported by subsidiary ledgers. Balances in the subsidiary ledgers at 1 June 2019 were as follows:

Accounts receivable	$	Accounts payable	$
Milky Way	3 000	Venus	6 000
Mars	14 000	Mercury	10 000
Constellation	10 000	Sun	6 000

During June 2019, the following amounts were received and paid:

June	2	Paid Venus $6000.
	3	Milky Way paid an amount owing of $1100, less $30 discount.
	8	Cash sales, $500.
	10	Paid an amount owing to Sun of $4000, less $40 discount.
	15	Mars paid $7000 and was allowed $100 discount.
	16	Purchased goods for cash, $3000.
	29	Constellation paid $8000, less $200 discount.
	30	Paid Mercury $5000, discount of $200 was lost.

Write up the cash receipts journal and the cash payments journal. Use separate columns for bank, discount allowed, accounts receivable, cash sales, discount received, accounts payable and (cash) purchases. Post from these journals to both the general ledger and the subsidiary ledgers and prepare schedules of accounts receivable and accounts payable as at 30 June 2019.

PROBLEM 8.18

Preparation of control accounts

Prepare debtors' and creditors' control accounts for the year commencing 1 July 2018 from the following information:

Balances at 1 July 2018	$
Debtors' control	15 425
Creditors' control	9 870
Summary of transactions to 30 June 2019	**$**
Credit sales	101 700
Cash sales	3 540
Credit purchases	71 620
Cash purchases	3 215
Cash paid to creditors	45 280
Discount allowed by suppliers	560
Discount given to debtors	725
Cash received from debtors	61 590

PROBLEM 8.19

Subsidiary ledgers and control accounts

James Stewart owns a general store in a country town. He keeps two subsidiary ledgers (an accounts receivable ledger and an accounts payable ledger) and a general ledger.

Balances in the subsidiary ledgers as at 31 March 2019 were as follows:

Accounts receivable	$	Accounts payable	$
Brown	900	Blue	580
Green	700	Red	1 500
White	460		2 080
	2 060		

Transactions for the month April 2019

Sales journal			Purchase journal		
Date 2019	Particulars	$	Date	Particulars	$
April 2	White	1 240	April 7	Red	2 000
13	Brown	2 400	16	Blue	1 120
16	Sage	1 160	20	Sage	200
20	Ruby	1 700	22	Grey	750
		6 500			4 070

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Cash receipts journal — Page 35

Date 2019	Particulars	Cash sales $	Accounts receivable $	Bank $	Sales discount $
Apr 2	Sales	560		560	
4	White		460	450	10
7	Sales	350		350	
10	Green		200	196	4
15	Brown		900	875	25
25	Ruby		700	682	18
		910	2 260	3 113	57

Cash payments journal — Page 29

Date 2019	Particulars	Accounts payable $	Sundries $	Bank $	Purchases discount $
Apr 4	Purchases		75	75	
10	Insurance		250	250	
14	Red	1 500		1 465	35
20	Advertising		150	150	
20	Wages		140	140	
24	Blue	1 700		1 655	45
27	Rent		100	100	
		3 200	715	3 835	80

1 Post from the journals to the accounts receivable and accounts payable control accounts in the general ledger, and to the accounts receivable and accounts payable ledgers.
2 Prepare supporting schedules of accounts receivable and accounts payable at 30 April 2019, and agree with the balances in the control accounts.

CASES

CASE 8A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 How were trade debtors valued in the accounts?
2 During the year, how much was written off in bad debts? How did this compare with the previous year?
3 What would the journal entry have been to record bad debts?

CASE 8B Telstra Limited

The following is an extract from Telstra's 2017 financial statements (Note 3.3).

	Telstra Group As at 30 June			
	2017		2016	
	Gross $m	Allowance $m	Gross $m	Allowance $m
Not past due	2 676	(13)	2 704	(15)
Past due 0–30 days	640	(9)	710	(10)
Past due 31–60 days	168	(10)	159	(8)
Past due 61–90 days	67	(7)	74	(7)
Past due 91–120 days	61	(17)	49	(23)
Past 120 days	134	(77)	123	(71)
	3 746	(133)	3 819	(134)

Telstra, *Annual Report 2017*, Note 3.3, p. 98
(https://www.telstra.com.au/content/dam/tcom/about-us/investors/pdf-e/Annual-Report-2017-singlepages.PDF).

1 Calculate the percentages used by Telstra in 2016 and 2017.
2 Comment on how the percentages have changed between 2016 and 2017.

HOW'S YOUR UNDERSTANDING SOLUTIONS

8A Income statement: revenue would be understated and therefore profit understated.
Balance sheet: assets would be understated and retained profits would be understated (because profit was understated).

8B Assets (probably current assets, assuming that the amount will be received within a year).

8C
i Receivables: $78 490 − $1100 = $77 390
ii Allowance for doubtful debts: $2310 + $1560 − $1100 = $2770
iii Bad debts expense: $1560.

8D

i In the books of the seller:				ii In the books of the purchaser:			
DR	Accounts receivable	400		DR	Inventory	400	
CR	Sales revenue		400	CR	Accounts payable		400

And on receipt of payment within the discount period:

DR	Cash	390		DR	Accounts payable	400	
DR	Discount allowed	10		CR	Cash		390
CR	Accounts receivable		400	CR	Discount received		10

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1 To determine the desired closing amount of the allowance for doubtful debts, the CFO prepares a schedule as follows:

Age category	Amount	Percentage	Estimated uncollectable
Not yet due	$95 000	1	950
1–30 days overdue	$25 000	3	750
31–60 days overdue	$11 000	10	1 100
61–90 days overdue	$4 000	25	1 000
Over 90 days overdue	$2 000	50	1 000
Total	$137 000		$4 800

2 Don't forget that the allowance for doubtful debts has an opening balance of $1000 CR (in the question). As the calculated desired closing balance for the allowance for doubtful debts is $4800, an additional $3800 will need to be added to this account using the following journal entry:

DR	Bad debts expense	$3800	
CR	Allowance for doubtful debts		$3800

PRACTICE PROBLEM B

1 Postings to general ledger and subsidiary ledgers:

GENERAL LEDGER

Debtors			
Opening balance	2 100	Cash	1 500
Sales	1 600		
Closing balance	2 200		

Creditors			
Cash	1 400	Opening balance	1 800
		Purchases	6 600
		Closing balance	7 000

DEBTORS' LEDGER

Xavier			
Opening balance	400	Cash	400
Sales	700		
Closing balance	700		

Young			
Opening balance	800	Cash	800
Sales	300		
Closing balance	300		

Zoeller			
Opening balance	900	Cash	300
Sales	600		
Closing balance	1 200		

CREDITORS' LEDGER

Adler			
Cash	600	Opening balance	1 000
		Purchases	5 000
		Closing balance	5 400

Barnes			
Cash	800	Opening balance	800
		Purchases	1 600
		Closing balance	1 600

2 Supporting schedules:

Schedule of debtors at 31 January 2019	$
Xavier	700
Young	300
Zoeller	1 200
	2 200

Schedule of creditors at 31 January 2019	$
Adler	5 400
Barnes	1 600
	7 000

COURSEMATE EXPRESS

WEBSITE RESOURCES

CourseMateExpress

Go to **http://login.cengagebrain.com** and use the access code that comes with this book for 12 months access to the resources and study tools for this chapter.

The CourseMate Express website contains:

- student revision quizzes
- glossary of key terms and flashcards
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NOTES

1 Material related to ageing of accounts receivable was provided by Noel Harding.
2 Material relating to expanded bookkeeping was provided by Athol Carrington and Gordon Howitt and rewritten by Michael Pennisi.

Inventory 9

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 explain the difference between perpetual and periodic inventory systems (9.1)
LO2 develop effective inventory controls (9.1)
LO3 analyse the effect of inventory transactions on the financial statements (9.2)
LO4 prepare journal entries for transactions under both the periodic and perpetual methods (9.2)
LO5 calculate the cost of inventory in accordance with accounting standards (9.3)
LO6 discuss the different types of inventory cost flow assumptions (9.3; 9.4)
LO7 calculate the impact of different cost flow assumptions on profit determination and inventory valuation (9.5, 9.7)
LO8 apply the lower of cost and net realisable value rule to the measurement of inventory (9.6)
LO9 interpret the inventory disclosure policies of Australian companies (9.8)
LO10 explain why inventory valuation is important to managers (9.9).

CHAPTER OVERVIEW

For many companies, inventory is one of their largest assets. For example, consider retailers like Woolworths and Harvey Norman or a manufacturer of cars, trucks and buses. In this chapter, we consider inventory control and various aspects of inventory accounting. Inventory accounting affects both the balance sheet (the value of the inventory asset) and the expense recognised for the use of inventory (cost of goods sold [COGS] expense in the income statement).

9.1 Inventory control

LO1 LO2 Chapter 7 emphasised the importance of keeping accurate records to provide information for both internal and external users. Many of the records that are kept have to do with the control of inventory. Inventory control is an important issue for management because a high percentage of assets may be tied up in inventory. Inventory may be perishable or become obsolete if held too long and, due to the physical attributes of some types of inventory, there may be a great potential for theft.

Several different inventory control systems may be used, depending on the nature of the inventory and the objectives of management. The methods explained below are the two that are most commonly used by business. Each provides a different amount of information at a different cost. It is important to note that the choice of inventory control system is a *record-keeping* choice as opposed to a *reporting* choice: management is simply deciding how to record the inventory. How inventory is reported on the financial statements is dealt with in later sections of this chapter.

The perpetual inventory control method

To date, in the textbook we have been using the perpetual inventory system as it is most commonly used in practice. When inventory is purchased, an asset increases (inventory) and either an asset decreases (cash) or a liability increases (accounts payable). When the inventory is sold, an asset (inventory) decreases and an expense increases (COGS).

Under the perpetual system, in addition to the generic ledger account, each investing item has a separate subsidiary record showing increases, decreases and the balance of items in stock.

When an order of inventory items is received, the quantity received is added to the quantity recorded as being already on hand. When items are sold, they are deducted from the recorded quantity. Therefore, the perpetual inventory method shows how many items are supposed to be on hand at any time. The steps of the perpetual inventory method are as follows:

- Take the quantity on hand at the beginning of the period.
- Add the quantity purchased during the period.
- Deduct the quantity sold during the period.
- This equals the quantity that should be on hand at the end of the period.

The name 'perpetual inventory control' comes from the idea that the accounting system has a continuously updated figure for the amount that should be on hand. If a physical count of the inventory fails to show that quantity, the company knows that some items have been lost or stolen, or that there has been an error in the records. Just as for cash, bank accounts and accounts receivable, the records provide accounting control in addition to any physical protection. The accounting records tell the company what should be on hand.

In most of the examples so far in this text, it has been assumed that the perpetual control method has been used, because each inventory purchase has been recorded as a debit to inventory asset (and credited to cash or accounts payable), and when inventory is sold, COGS has been credited to the asset (inventory) and debited to COGS expense.

The perpetual method provides additional management information. Suppose that after the above calculation, the expected ending inventory was 3000 units, but a stocktake to confirm showed only 2700 units of inventory on hand. Management would know there had been a 300 unit shortage or other error, and could intensify controls over inventory if that were thought to be cost-effective.

The inventory asset account would be adjusted to match the count by an adjusting entry to reduce inventory and increase an expense. The expense is likely to be called 'inventory shortage' expense. The accounts would then show the expense being incurred by the imperfect control.

The periodic count method

When goods are bought, they are put on the shelf or in the storeroom, and when they are sold or used, they are taken off the shelf or out of the storeroom. With the perpetual control system, records are kept of every

one of these movements to provide expected quantities or values on hand. However, if complete records of such inventory changes are not kept, the organisation does not have records to indicate what should be on hand. The only way to tell what is on hand is to go and count it. Because this sort of counting tends to be done only periodically, when an inventory figure is needed for preparation of financial statements, this method is called the periodic inventory method.

While there may be other features of internal control present, such as physical protection and insurance, the periodic count method lacks the parallel record-keeping that gives the perpetual method its value. There is no way to reconcile counts to records in order to discover errors, but it is simple and cheap to operate, because no continuing records are kept. Record-keeping does cost money! The calculation to work out the cost of goods sold under a periodic inventory system is as follows:

$$\text{Beginning inventory (count)} + \text{Purchases (records)} - \text{Ending inventory (count)}$$
$$= \text{Inventory sold (deduced); that is, cost of goods sold}$$

Because what has been sold is inferred, rather than known from records, you can see that it might not all have been sold. Some could have been lost, stolen, evaporated and so on. So under the periodic method, COGS expense (cost of counted beginning inventory + cost of purchases − cost of counted ending inventory) includes all these other possibilities. If the periodic method is used, other forms of control need to exist to indicate theft and so on. For example, unexpected changes in the ratio of COGS to sales should be investigated.

Inventory: cost and benefits of controls

The perpetual method can be costly in terms of record-keeping, although advances in information systems have generally reduced this cost in recent years. What type of business uses a perpetual system? The local car dealership is a good example. Cars are expensive; therefore, a large investment must be made if a good supply is to be on hand for customers to choose from. The high value of cars, and the need to keep track of them for registration and insurance purposes, means that serial numbers and other types of identification information are readily available and usually recorded in various places. Cars have a high risk of becoming obsolete because consumer preferences change, and the cost of theft is high even if only one car is stolen. Because of the relatively small quantity of cars sold by most dealerships, record-keeping costs are not high. Similarly, companies selling other expensive items, such as television sets, stereos, refrigerators, jewellery or furniture, use the perpetual method.

In the past, many organisations that had a large number of sales, particularly of items with relatively low value, used the periodic inventory method because of its lower costs. However, with the considerable increase in computer-based inventory systems, most organisations now use the perpetual system because of its advantages in controlling inventory. For example, many retail companies have cash registers that use optical scanners to read the barcodes attached to products. These read the sales price and also update the inventory records. Have you wondered recently why when you return an item of clothing to a department store to exchange it for a different size, the cashier scans both the returned item and the replacement item? As the sales price is generally the same, the usual reason is to update inventory records. This not only assists with control but also helps with planning for ordering additional inventory.

HOW'S YOUR UNDERSTANDING?

9A Do you expect that your university bookshop uses a perpetual or periodic inventory system? Why?

9.2 Accounting entries for perpetual and periodic inventory

LO3 LO4

Brinkworth Ltd uses a perpetual accounting control system for its inventory. It has the following data for a recent period.

	$
Beginning accounts receivable	40 000
Purchases of inventory during period (all on credit)	114 000
Cash collected in period	115 000

	$
Beginning inventory	23 000
Sales (all on credit)	150 000
Ending inventory	28 000

The company's mark-up is 50 per cent on cost (i.e. the selling price is 150 per cent of cost). Just to make it easier, we'll assume that all sales, purchases and collections were in single transactions.

First, we will consider the impact on the accounting equation. Note: if the company's mark-up on cost is 50 per cent and sales equal $150 000 then cost must have been $100 000.

			$
a	Purchases	Increase inventory	114 000
		Increase accounts payable	114 000
b	Sales	Increase accounts receivable	150 000
		Increase sales revenue	150 000
c	Cost of goods sold	Increase COGS	100 000
		Decrease inventory	100 000
d	Adjustment	Increase inventory shortage expense (see below)	9 000
		Decrease inventory	9 000
e	Collections	Increase cash	115 000
		Decrease accounts receivable	115 000

Here is a summary of the journal entries for the perpetual system.

				$	$
a	DR	Purchases	Inventory	114 000	
	CR		Accounts payable		114 000
			Purchases during the period.		
b	DR	Sales	Accounts receivable	150 000	
	CR		Sales revenue		150 000
			Sales on credit during the period.		
c	DR	Cost of goods sold	COGS expense	100 000	
	CR		Inventory		100 000
			COGS expense: $150 000 revenue minus 50 per cent mark-up on cost.		
d	DR	Count adjustment	Inventory shortage expense	9 000	
	CR		Inventory		9 000
			Shortage; record indicates inventory should be $23 000 + $114 000 − $100 000 = $37 000 but only $28 000 is on hand. Thus, there is a $9 000 shortage.		
e	DR	Collections	Cash	115 000	
	CR		Accounts receivable		115 000
			Customer collections during the period.		

Let's review two accounts here to ensure that you see how the accounting figures help with the control.

	$
Inventory account:	
Beginning cost balance	23 000
Purchases	114 000
Cost of goods sold	(100 000)
Expected balance on hand	37 000
The stocktake showed less than expected on hand:	
Adjustment for loss	(9 000)
Revised ending balance	28 000
Accounts receivable account:	
Beginning	40 000
Sales	150 000
Collections	(115 000)
Ending balance	75 000

Let's now consider the accounting entries under the periodic method.

			$
a	Purchases	Purchase expense increases	114 000
		Accounts payable increases	114 000
b	Sales	Accounts receivable increases	150 000
		Sales revenue increases	150 000
c	Collections	Cash increases	115 000
		Accounts receivable decreases	115 000

The journal entries for the periodic inventory system are as follows.

				$	$
a	DR	Purchases	Purchase expense	114 000	
	CR		Accounts payable		114 000
			Purchases during the period.		
b	DR	Sales	Accounts receivable	150 000	
	CR		Sales revenue		150 000
			Sales on credit during the period.		
c	DR	Collections	Cash	115 000	
	CR		Accounts receivable		115 000
			Customer collections during the period.		

Note that under the periodic method there are no journal entries for COGS and inventory shortage (entries [c] and [d] under the perpetual method). COGS is not affected at the time of sale. It is calculated at the end of the accounting period by adding purchases for the period to opening inventory and then deducting closing inventory. Inventory shortages are not known, because there are no inventory records with which to compare the stock count total. Under the periodic inventory method, no adjustment has yet been made to the inventory account to show that it is different at the end of the period from what it was at the beginning of the period (because of purchases and sales). This adjustment to the inventory account will occur in the closing entries.

If the company did use the periodic count method, we would have the $23 000 from the beginning, plus the $114 000 purchased, less the $28 000 counted at the end, for an apparent COGS of $109 000. You can see that, had we had the perpetual records, we would know that this figure is actually the sum of the $100 000 cost of goods really sold and the $9000 shortage. Both methods have the same revenue and the

same total expense ($109 000), but they differ in the information they provide to management about what is going on. It is only under the perpetual method that they know about the shortage of inventory.

Comparing perpetual and periodic inventory systems

The gross profit calculation under both methods is shown below.

PERPETUAL INVENTORY SYSTEM

	$	$
Sales		150 000
Less: COGS	100 000	
Less: Inventory shortage	9 000	109 000
Gross profit		41 000

PERIODIC INVENTORY SYSTEM

	$	$
Sales		150 000
Cost of goods sold:		
Opening inventory	23 000	
Purchases	114 000	
Cost of goods available for sale	137 000	
Less: Ending inventory	28 000	
COGS		109 000
Gross profit		41 000

In Chapter 4 we discussed closing entries. The closing entries under the perpetual and periodic methods are shown below:

PERPETUAL METHOD

		$	$
DR	Profit and loss summary	109 000	
CR	COGS expense		100 000
CR	Inventory shortage expense		9 000
DR	Sales revenue	150 000	
CR	Profit and loss summary		150 000

PERIODIC METHOD

		$	$
DR	Profit and loss summary	137 000	
CR	Purchases		114 000
CR	Inventory (beginning)		23 000
DR	Inventory (ending)	28 000	
DR	Sales revenue	150 000	
CR	Profit and loss summary		178 000

Under both methods, the profit and loss summary account and the inventory account will have the same balances. (Later in this chapter you will see situations where this is not the case, because of certain inventory cost flow assumptions that have been made.)

PERPETUAL METHOD

Profit and loss summary

	109 000		150 000
		CB	41 000

Inventory

OB	23 000		100 000
	114 000		9 000
CB	28 000		

PERIODIC METHOD

Profit and loss summary

	137 000		178 000
		CB	41 000

Inventory

OB	23 000		23 000
CB	28 000		

Check the opening balance in the inventory accounts, then follow the posting from the journal entries to the ledgers to ensure that you can see what is happening. Using both methods, $41 000 is the balance of profit and loss summary to be transferred to retained profits, and the inventory balance to be carried forward to next period is $28 000.

HOW'S YOUR UNDERSTANDING?

9B Granot Ltd uses the perpetual inventory method. At the beginning of the month, inventory costing $145 890 was on hand. Purchases for the month totalled $267 540 and cost of goods recorded as sold totalled $258 310. At the end of the month, a count showed inventory costing $152 730 to be on hand. What, if anything, was the inventory shortage for the month?

9.3 Inventory valuation and cost of goods sold

LO5 LO6

Inventory accounting, like accounting for other current assets, uses a modified version of the standard historical cost valuation basis: lower of cost and net realisable value (i.e. what the asset can be sold for). Because inventory is expected to be turned into cash (sold), or otherwise consumed within the next year, it is a current asset. Moreover, generally accepted accounting principles require that any impairment in the asset's value be recognised in the period in which the impairment occurred – not later, when the asset is sold. Net realisable value is used only if it is lower than cost, so the historical cost basis is departed from only in one direction, down, if that is needed.

In this section, we briefly review how to determine cost. Inventory accounting affects both the balance sheet (inventory valuation) and the income statement via the expense recognised for the use of inventory (COGS expense).

Cost of inventory

It is easy to say that the total cost of inventory is just the sum of quantity times unit cost for all the inventory items. However, in order to work out the cost of each individual unit, we may need to get further information. Under accounting standards, the cost of inventory includes all the costs of purchase, costs of conversion and other costs incurred in bringing inventory to its current location and condition. This means that the cost of inventory includes, in addition to the purchase price, any taxes on the purchase as well as transportation and

handling costs. Costs of conversion are relevant if inventories are manufactured and includes costs of production such as labour and overheads (more on this is covered in our online management accounting chapters). Costs that are not included in the cost of inventory include administrative costs, selling costs and costs of storage. Now that we have worked out the cost of inventory, we can consider inventory cost flow assumptions.

Inventory cost flow assumptions

Inventory costs are very simple to calculate when the cost of an item in inventory remains constant. However, assume that an item was purchased at various times throughout the year. Take an example where there was an opening inventory of 200 items that cost $50 each. During the year, the price steadily increased, with subsequent purchases of 100 at $51, 200 at $53, 200 at $54 and 100 at $55. All the items were stored together, and 400 were removed from inventory for sale during the year. What is the COGS and what is the value of closing inventory? It all depends on whether the items removed were those that cost $50, $51, $53, $54 or $55. Imagine the trouble caused by keeping track of the cost of each and every item removed from inventory.

In practice, the actual cost of individual inventory items is tracked only for high-value items (e.g. houses, motor vehicles, aircraft and expensive jewellery) that can be identified by serial numbers and other methods. This method is often called specific identification.

Because, for the most part, it is not worthwhile or even possible to keep track of the cost of individual items in inventory, most companies calculate their balance sheet inventory cost and COGS expense by *assuming* some flow of costs through the business. We don't want to have to know exactly which ones are on hand, or which have been sold, so we make assumptions.

To illustrate the effects of different assumptions, we will first use a simple example based on the periodic inventory control method, in which no records are kept of changes in inventory levels during the accounting period. If the perpetual control method were used, the calculations would be more complex (you'll see those later in the Meeix Ltd example in section 9.5). The following scenario involves inventory purchased for resale (such as a retailer would purchase), but the ideas work just as well for inventory manufactured by a company. In that case, cost of *purchases* is replaced by cost of goods *manufactured*. Consider the following data:

- Inventory at beginning of period: 120 units costing $2 each.
- Purchases during period (in the order in which they happened): 100 units costing $3 each and 110 units costing $4 each.
- Sales during period (based on an ending inventory of 150 units): 180 units.

The *cost of goods available for sale* equals the cost of the opening inventory plus the cost of those purchased (or manufactured). So we have 120 × $2 = $240, plus 100 × $3 = $300, plus 110 × $4 = $440, for a total cost of goods available of $980.

Our problem is how to *allocate* the $980 between the income statement for the period (COGS expense) and the balance sheet at the end of the period (ending inventory asset). There are three common inventory cost flow assumptions that are used around the world:

- First in, first out (FIFO) assumes that the first items acquired are the first ones sold and, therefore, that any ending inventory on hand consists of the most recently acquired units (recent costs on the balance sheet, older costs in COGS expense).
- Weighted average cost (AVGE) assumes ending inventory and COGS are composed of a mixture of old and new units.
- Last in, first out (LIFO) assumes the last items acquired are the first ones sold, i.e. the opposite of FIFO, saying that any inventory on hand consists of the oldest units (older costs on the balance sheet, recent costs in COGS expense).

Exhibit 9.1 shows the three different assumptions of inventory cost flow. *In each case, the sum of the ending balance sheet asset valuation and the COGS expense is $980.* The different cost flow assumptions just allocate this available cost differently between the balance sheet valuation and the expense in the income statement.

EXHIBIT 9.1

INVENTORY COST FLOW ASSUMPTIONS

FIFO, AVGE AND LIFO

Method	Ending inventory asset	COGS expense
FIFO	(110 × \$4) + (40 × \$3) = \$560	120 × \$2 + 60 × \$3 = \$420 or \$980 − \$560 = \$420
AVGE	150 × \$2.97 = \$445 Average unit cost = \$980/330 = \$2.97 (rounded)	180 × \$2.97 = \$535 or \$980 − \$445 = \$535
LIFO	(120 × \$2) + (30 × \$3) = \$330	110 × \$4 + 70 × \$3 = \$650 or \$980 − \$330 = \$650

9.4 More about inventory cost flow assumptions

LO6

The above example introduced three cost flow assumptions – FIFO, AVGE and LIFO – and related to the periodic method. We know from section 9.1 that companies can use the periodic or perpetual inventory control methods. If we put the three cost flow assumptions against the two control methods, we get the following:

Assumption	Periodic control	Perpetual control
FIFO	FIFO	FIFO
AVGE	Weighted average	Moving weighted average
LIFO	Periodic LIFO	Perpetual LIFO

FIFO is not affected by the inventory control method because it just assigns the most recent cost to whatever is on hand. The other two methods are affected by the control method, because they depend on what we know about what happened to inventory levels during the period. This gives us five potential methods: FIFO and two versions each of AVGE and LIFO. (There is a sixth, specific identification, as you have already seen. Further, at the end of this section, two more methods are mentioned briefly. In fact, there are at least eight different ways to account for inventory cost!) In Australia, the LIFO method is not allowed to be used for either financial reporting or tax purposes. However, we will include it because the contrast with FIFO and moving average may help you understand the latter ones, and because LIFO is very common in the United States, so you will see it mentioned in many US financial statements.

Let's examine these assumptions and their interaction with internal control methods further. Remember that, because each assumption allocates the available inventory cost between the inventory asset and the COGS expense differently, the choice of assumption has an effect on both the income statement and the balance sheet. The significance of the effect depends on how much purchase (or manufacturing) costs per unit rise or fall during the period. If there is little change in these costs, the various methods will show very similar results.

FIFO assigns the more recent purchase costs to the inventory asset account and, therefore, older costs to the COGS expense account. It is used because it is convenient and produces inventory asset values that are close to current costs, which seems to many people to be appropriate for a current asset. For example, suppose there are 620 boxes of chocolates on hand at 30 June, and recent purchase invoices showed the following costs: 29 June, 260 boxes at \$3.20; 14 June, 310 boxes at \$3.35; 1 June, 210 boxes at \$3; and

so on. The FIFO ending inventory is found by starting with the most recent purchase and going back in time until all the ones on hand are accounted for (working on assumption, since we do not really know when any particular box was purchased). So the FIFO cost here would be:

$$(260 \times \$3.20) + (310 \times \$3.35) + ([620 - 260 - 310 = 50] \times \$3) = \$2020.50$$

A few key facts about FIFO:

- FIFO is the most popular cost flow assumption for inventories for larger Australian companies.
- FIFO is considered appropriate for a current asset by many people because it is the most reasonable method of physically moving inventory, especially inventory that is perishable or subject to changes in style or features, such as groceries, clothing and other retail products. Picture a shelf in a grocery store. FIFO assumes that new stock is placed behind older stock on the shelf, so that the inventory keeps moving forward on the shelf. In Australia, accounting standards require that the cost flow reflects the underlying physical flow of the goods in question. This is not the case in the United States.

The AVGE method assigns the available cost equally to the inventory asset and to COGS expense. In the example in Exhibit 9.1, both inventory asset and COGS used the same $2.97 average cost per unit. Note that when prices are rising, average cost shows a higher COGS (lower profit) and lower inventory balance sheet figures than the FIFO method.

LIFO is, on the face of it, a strange valuation method. It assumes that the newest items are sold first and, therefore, that the oldest are the ones left on hand. In the extreme, this would imply that the grocery store's first loaves of bread are still at the back of the shelf, years later (possibly 100 years later). However, note that in the United States the cost flow assumption used for accounting purposes does not have to match the physical flow of items. So rest assured that while American bread may not be as tasty as Australian bread, it is not that old!

A few key facts about LIFO:

- LIFO is used in the United States for one very practical reason: it is an allowable method for income tax purposes. However, it can only be used for tax purposes if it is also used for accounting purposes. In a period of rising purchase costs, which is pretty much constantly the case, it produces a higher COGS expense and a lower inventory asset value compared with FIFO or AVGE. Therefore, LIFO also produces lower profit and lower income tax, if it can be used for tax purposes.
- As noted earlier, it is not permissible to use LIFO in Australia for accounting or taxation purposes. In some countries, such as Canada, it is an allowable method for accounting but not for income tax purposes, so a Canadian company using it for the financial statements would have to compute inventory values all over again using one of the other methods when doing its income tax return.
- It can also be argued that LIFO matches revenues with expenses more adequately than the other two methods do. For example, if a company changes its selling prices as its purchase costs change, its revenues reflect recent price changes, and it then seems appropriate to deduct the more recent purchase costs as COGS expense against the revenues. The trouble is that LIFO produces inventory asset values that are based on older purchase costs, and this can substantially underestimate the asset value.
- It would be nice to use current purchase prices for COGS expense and for the balance sheet inventory value. But that can't be done if we stick to the historical cost accounting basis: the books wouldn't balance because some of the units would have been purchased at older costs and those costs would be in the accounts too, in the inventory asset or expense accounts. (There have been proposals to use current costs, such as replacement costs, in both statement figures, but these are not presently permitted to be used in practice.)
- LIFO is affected by whether its amounts are determined using the periodic or perpetual control methods, as the following example will show.

9.5 An example: Meeix Ltd

LO7

Among the products Meeix Ltd purchases and sells is Gloop. Meeix Ltd began last year with 1000 units of Gloop on hand at a cost of $4 each, and during the year its purchase and sales records showed the following.

Date	Units purchased	Units sold	Units on hand	Purchase price
Jan. 1			1 000	$4
Feb. 15		350	650	
Mar. 20	600		1 250	$5
Apr. 30		750	500	
Sept. 12	800		1 300	$6
Dec. 11		200	1 100	
	1 400	1 300		

The chart in Figure 9.1 shows how the quantities of Gloop changed during the year.

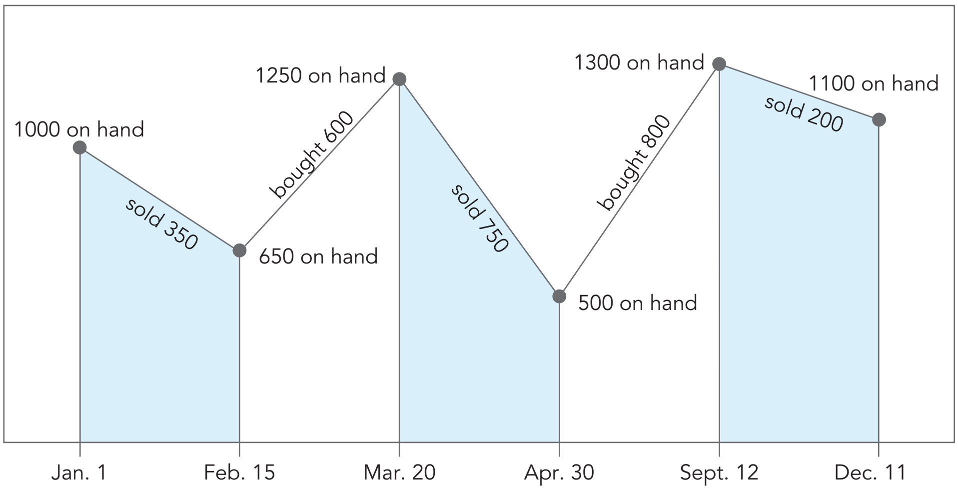

FIGURE 9.1 Inventory balances and changes, Meeix's Gloop

Inventory under different cost flow assumptions

Note that the cost flow assumptions would identify the ending inventory's 1100 units as follows.

FIFO

- 1100 = 800 most recently bought + 300 of those bought 20 March.

AVGE

- *Annual weighted:* 1100 = a proportionate mixture of those on hand at the beginning and those bought 20 March and 12 September.
- *Moving:* the first average is the 1250 on hand at 20 March, a proportionate mixture of those on hand at beginning + those bought 20 March; second average, the 1300, is a proportionate mixture of the first average (on hand 30 April) and those bought 12 September.

LIFO

- *Periodic:* the ups and downs during the year are not known (no records kept), so the 1100 = 1000 on hand at beginning + 100 bought 20 March.
- *Perpetual:* during the year, the inventory hit a minimum of 500, so that's all of the beginning items that could still be on hand at the end; therefore, 1100 = 500 from beginning + 600 bought 12 September.

Now we can go on with the calculations. Regardless of the cost flow assumption used, we know that the beginning inventory cost is $4000 and that purchases costing $7800 (600 × $5 + 800 × $6) were made. Available cost, therefore, is the sum of beginning inventory and purchases, which is $11 800. Consequently, as long as the historical cost basis of accounting is used, any inventory cost allocation method must produce $11 800 as the sum of the ending inventory asset and COGS expense. You might think of it this way:

Available for sale = Gone + Still here
Beginning inventory + Purchases = COGS expense + Ending inventory

The left side equals $11 800, so the right side must result in the same total. This gives us ways to check our calculations. If we calculate the COGS expense and the ending inventory asset cost separately, they must add up to $11 800. As a short cut, we can calculate either the expense or the asset value, and deduce the other by deducting it from $11 800. This is easier than doing it twice, but the calculations below will include both the expense and the asset so that you can see how it all works.

Based on the patterns shown in Figure 9.1, and the summary of each method's assumption about the ending inventory quantity, here are the calculations for ending inventory cost and COGS.

FIFO METHOD

	$
Ending inventory cost: (800 × $6) + (remaining 300 × $5)	6 300
COGS expense: (1000 × $4) + (remaining 300 × $5)	5 500
	11 800

Alternatively, the calculations can be done as follows.

Date	Purchases $	Cost of goods sold $	Ending inventory $
Jan. 1			1 000 at $4 = 4 000
Feb. 15		350 at $4 = 1 400	650 at $4 = 2 600
Mar. 20	600 at $5 = 3 000		650 at $4 = 2 600
			600 at $5 = 3 000
Apr. 30		650 at $4 = 2 600	
		100 at $5 = 500	500 at $5 = 2 500
Sept. 12	800 at $6 = 4 800		500 at $5 = 2 500
			800 at $6 = 4 800
Dec. 11		200 at $5 = 1 000	300 at $5 = 1 500
			800 at $6 = 4 800
Total		5 500	6 300

AVGE METHOD

Annual weighted average

	$
Average cost = $11 800/(1000 + 600 + 800) = $4.917 (rounded)	
Ending inventory cost: 1100 × $4.917	5 408
COGS expense: 1300 × $4.917	6 392
	11 800

Moving weighted average

The *moving average* works the same way as annual weighted average, but is recalculated after each purchase, weighted in accordance with the inventory on hand at that point.

Date	Purchases $	COGS $	Ending inventory $
Jan. 1			1 000 at $4 = 4 000
Feb. 15		350 at $4 = 1 400	650 at $4 = 2 600
Mar. 20	600 at $5 = 3 000		1 250 at $4.48 = 5 600
Apr. 30		750 at $4.48 = 3 360	500 at $4.48 = 2 240
Sept. 12	800 at $6 = 4 800		1 300 at $5.415 = 7 040
Dec. 11		200 at $5.415 = 1 083	1 100 at $5.415 = 5 957
		5 843	

LIFO METHOD

Periodic basis

	$
Ending inventory cost: (1 000 × $4) + (remaining 100 × $5)	4 500
COGS expense: (800 × $6) + (remaining 500 × $5)	7 300
	11 800

Perpetual basis

The perpetual records allow us to determine whether it is reasonable to assume that all the original 1000 units are still on hand. In this example, it is not reasonable, because at one point the inventory was down to 500 units, so that 'layer' of cost has been partly used up. The calculation reflects the cost layer information available from the records.

Date	Purchases $	COGS $	Ending inventory $
Jan. 1			1 000 at $4 = 4 000
Feb. 15		350 at $4 = 1 400	650 at $4 = 2 600
Mar. 20	600 at $5 = 3 000		650 at $4 = 2 600
			600 at $5 = 3 000
Apr. 30		600 at $5 = 3 000	
		150 at $4 = 600	500 at $4 = 2 000
Sept. 12	800 at $6 = 4 800		500 at $4 = 2 000
			800 at $6 = 4 800
Dec. 11		200 at $6 = 1 200	500 at $4 = 2 000
			600 at $6 = 3 600
		6 200	5 600

The following summarises the Meeix example's results.

Cost method	Ending inventory asset $	COGS expense $	Total cost available $
FIFO	6 300	5 500	11 800
AVGE			
Annual	5408	6 392	11 800
Moving	5 957	5 843	11 800
LIFO			
Periodic	4 500	7 300	11 800
Perpetual	5 600	6 200	11 800

This example illustrates a result that is common when using these methods. In a period of rising purchase prices, as was found here:

- FIFO tends to have the highest inventory asset value and lowest COGS expense (and therefore the highest net profit).
- LIFO tends to have the lowest inventory asset value and highest COGS (and therefore the lowest net profit).
- AVGE tends to be between the other two in asset values, COGS and net profit.

If *purchase prices are falling*, the positions of FIFO and LIFO reverse, with FIFO tending to have the lowest net profit and LIFO the highest. The AVGE method tends, again, to be between the other two. While falling prices are less common, they can occur in some industries (such as computer software and some electronics). The more cost prices rise (or fall) during a period, the larger the differences will be between the methods.

HOW'S YOUR UNDERSTANDING?

9C RST Ltd uses a perpetual inventory system. It has opening inventory of 200 items, which cost $10 each. It purchased another 500 items at $12 each and 300 items at $13 each during the period. It has 100 items in closing inventory. What are the closing inventory valuation and the COGS for the period using FIFO and LIFO?

9.6 Lower of cost and net realisable value rule

LO8 The lower of cost and net realisable value rule states that the value of inventory should be written down from the cost price to the market price in situations where market is below cost. In Australia, market is defined as net realisable value. Net realisable value is the estimated selling price less costs to complete (such as putting it in a box) or sell the items. Again, the focus is on items whose net realisable value is *below* cost, so we are concerned with items whose selling prices are falling or items that have been damaged, have become obsolete, or are no longer in style so we can't sell them for what we thought we could. The measurement of the lower of cost and net realisable value should be done on an item-by-item basis. When this is not possible because of the large number of homogeneous items having an insignificant cost, the rule can be applied for a group of items.

Basically, to calculate the lower of cost and net realisable value, we just take the cost of the items and match those costs against the net realisable value and use the lower as the balance sheet inventory value. In practice, companies usually focus mainly on items whose values are likely to be impaired (as might be identified during the physical count), rather than calculating net realisable value for everything.

For example, if inventory that costs $1000 had a net realisable value at year-end of $800, it would be necessary to write down an asset (inventory) and increase an expense (inventory write-down expense). The journal entry would be:

		$	$
DR	Inventory write-down expense	200	
CR	Inventory		200

Note that the decision to write down the inventory has resulted in a $200 reduction in profit for the period. You can imagine that, if this figure were large, managers might not want to write down the value of inventory. Disputes between management and auditors can arise over these issues.

Consider a company which has three products: X, Y and Z.

Item type	X	Y	Z
Quantity	100	300	200
Cost	$5	$9	$10
Net realisable value	$7	$8	$16

The inventory value under lower of cost and net realisable value is $4900 (100 × $5 + 300 × $8 + 200 × $10). In this case, inventory of $300 would be written down because Y is presently included in the records at $2700 (300 × $9) but its net realisable value is $2400 (300 × $8).

HOW'S YOUR UNDERSTANDING?

9D Cricket Cards Ltd sells boxes of cricket cards. The following information relates to transactions concerning inventory for the year 1 January 2019 to 31 December 2019.

Date	Purchased	Sold	Balance
1/1/19			110 @ $5
10/2/19	80 @ $6		
14/4/19		60	
9/5/19	110 @ $7		
24/7/19		120	
21/10/19	100 @ $8		
12/11/19		90	

(i) Assuming that a perpetual system of inventory flow is used, calculate the COGS and closing inventory for both FIFO and LIFO.

(ii) You estimate that in the current market the net realisable value of cricket cards is $5 per box. Do you need to make any adjustments to either of your calculations above to apply the lower of cost and net realisable value rule? If so, calculate the adjustment.

9.7 Retail inventory and standard costs

The retail inventory method – which, as you might expect, is most applicable to retailers' inventories – combines purchase costs and selling prices into a single calculation, or estimate. LO7

This is like the perpetual method, except that records are based on selling prices of goods rather than just quantities or costs. In the retail inventory control method, a department or branch is charged with the total selling value (sales price times quantity) of all items for sale delivered to it. Revenue from sales is then

deducted from this total value as the items are sold. This ties inventory control to cash control. At any point in time, the department or branch should have inventory, plus cash from sales made since the last revenue report, plus records of sales on credit or via credit cards, equal to the current total retail value. The method proceeds as follows:

- Start with the retail price of all goods received by the department (on hand at the beginning of the period plus received during the period).
- Deduct the department's sales (connected to cash, cheque, electronic funds transfer and credit card control procedures).
- Difference equals inventory that should be on hand, priced at retail.

If a physical count, with items priced at retail, fails to produce the expected total retail value, the company knows that some items have been lost or stolen, or that there has been an error in the records. An adjustment for the shortage or overage can be made in the same way as for the perpetual method. The total cost of the inventory can be estimated at any time by deducting the average mark-up from the current total retail value. The retail method is, however, a little complicated in practice, because of the need to keep track of markdowns, returned goods, special sale prices and other price adjustments if the method is to work accurately.

One other popular method for valuing inventory, which is used in Australia, is standard costs. You will learn about this method in detail if you take a course in management accounting or cost accounting. It is applicable to inventories manufactured by the company, and uses estimated costs based on standard production costs and volumes. It is a predetermined cost that is applied to all movements in inventories, including opening and closing balances, purchases and cost of sales. For example, if the standard cost is $20 and the company sold 2000 units during the year, and had 300 in stock at year-end, the COGS would be $40 000 ($20 × 2000) and the closing inventory would be $6000 ($20 × 300).

9.8 Disclosure of inventory accounting policies

LO9 Accounting standards require that the financial reports disclose the value of inventory split between current and noncurrent assets and further split into the following classes: (a) raw materials and stores, (b) work-in-progress, (c) finished goods, and (d) land held for resale. In addition, it requires disclosure of the general basis for inventory valuation (specific identification, average, FIFO or standard cost) and the methods used to assign costs to inventory quantities (such as how overhead is allocated to inventories that are manufactured).

Examples of inventory policies, as given in the note covering statements of accounting policies, are as follows:

> CSR LIMITED
>
> Inventories: are valued at the lower of cost and net realisable value. Net realisable value is the estimated selling price in the ordinary course of business less the estimated cost of completion and costs necessary to make the sale.
>
> - Raw materials, stores, work in progress and finished goods: costs included in inventories consist of materials, labour and manufacturing overheads which are related to the purchase and production of inventories. The value of inventories is derived by the method most appropriate to each particular class of inventories. The major portion is valued on either a first-in-first-out or average cost basis.
> - Land development projects: cost includes the cost of acquisition, development and holding costs during development. Costs incurred after completion of development are expensed as incurred. Land development projects not expected to be sold within 12 months are classified as non-current inventories
>
> Source: CSR Limited, *Annual Report 2017*, p. 56.

SPICERS LIMITED

Inventories are valued at the lower of cost (including an appropriate proportion of fixed and variable overheads) and net realisable value in the normal course of business.

The cost of inventories is based on the first-in first-out or weighted average principle and includes expenditure incurred in acquiring the inventories and bringing them to their existing location and condition. In the case of manufactured inventories and work in progress, cost includes an appropriate share of overheads based on normal operating capacity. The provision for impairment losses is based on an ageing analysis.

Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

Spicers Limited, *Annual Report 2017.*

The above disclosures show that, in practice, FIFO and weighted average are commonly used to determine the cost of inventory. Within the one organisation, more than one method can be used and it may vary between the type of product or the class of inventories (raw material, work-in-progress or finished goods). The disclosures of both companies refer to the fact that inventories are valued at the lower of cost and net realisable value.

For manufacturing firms, overhead costs are reported in the cost of goods manufactured. Manufacturing costs are beyond the scope of this book, and will be discussed in a management accounting subject.

9.9 Managers and the valuation of inventory

Managers have to make important decisions about the inventory control system they wish to implement. While, for control purposes, the perpetual method has advantages over the periodic method, it has a higher cost. **LO10**

The valuation of inventory is important to managers because it affects COGS (and therefore profit) and the balance sheet – via the value of inventory. Both profit figures and balance sheet figures affect managers' performance reports. Therefore, managers need to understand the effect, across time, of different cost flow assumptions on financial statements.

Managers also need to make some important judgements related to inventory valuation; for example, which cost flow assumption most closely represents the actual physical flow? What inventory items have a net realisable value that is lower than cost?

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first,* because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Periodic and perpetual inventory control calculations

You are the senior accountant for a shoe wholesaler that uses the periodic inventory method. You have determined the following information from your company's records, which you assume is correct:

a Inventory of $246 720 was on hand at the start of the year.
b Purchases for the year totalled $1 690 000. Of this, $1 412 000 was purchased on account; that is, accounts payable was credited for this amount at the time of the purchase.
c The ending balance in accounts payable was $47 500 higher than the opening balance.
d A year-end inventory count revealed inventory of $324 800.

Required:

1 Calculate COGS according to the periodic inventory method.
2 Assume now that your company uses the perpetual method of inventory control, and that your records show that $1 548 325 of inventory (at cost) was sold during the year. What is the adjustment needed to correct the records, given the inventory count in item (d) above? What might the need for this adjustment indicate about company operations?

PRACTICE PROBLEM B

LIFO, FIFO and AVGE inventory cost calculations

The following purchases of inventory were made by Anvil Ltd in April:

Date	Number of units purchased	Per unit amount $	Total cost $
Apr. 2	100	5	500
Apr. 15	200	6	1200
Apr. 23	50	7	350
	350		

Sales of inventory during April were:

Date	No. of units sold
Apr. 6	70
Apr. 13	120
Apr. 18	200
	390

Anvil's inventory on 1 April consisted of 150 units valued at $4 each.

1 Calculate COGS for April, using:
   a LIFO
   b FIFO
   c weighted annual average inventory cost flow assumptions.

   Assume that Anvil uses a periodic inventory control system.
2 Calculate ending inventory values under each of the three methods above as at 30 April.
3 Suppose that the market price for these units was only $5 per unit at 30 April, and the lower of cost or market valuation is applied to each unit individually. Redo question 2.
4 Redo questions 1 and 2, assuming that Anvil uses a perpetual inventory control system.

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 Explain the difference between the periodic inventory system and the perpetual inventory system.
2 How has technology influenced the choice of a periodic or perpetual inventory system?
3 How is COGS determined under both the perpetual and periodic inventory systems?
4 Compare the periodic and perpetual systems as a control device.
5 Under what circumstances will the perpetual and periodic inventory systems give the same COGS figure? How can this occur if one method treats purchases as an asset and the other method treats purchases as an expense?
6 How is inventory shortage detected under the perpetual and periodic inventory methods?
7 What is included in the cost of inventory? Provide examples of what is not included in the cost of inventory?
8 What does the term 'inventory cost flow assumption' mean?
9 Explain the impact on the financial statements of using FIFO, weighted average and LIFO. When would the three methods give similar profit figures? When would they give identical profit figures?
10 Explain the concept of lower of cost and net realisable value for inventory.
11 Why is the valuation of inventory important to managers?
12 Are inventories always current assets?
13 If management overstated the valuation of closing inventory, would it affect profit for the year?

PROBLEMS

PROBLEM 9.1

FIFO and LIFO inventory cost calculations

The following transactions occurred in relation to the widget inventory of Hackack Ltd during the month of July.

Date		Transaction
July	1	Began operations by purchasing 300 widgets for $6.00 each
	8	Sold 50 widgets for $7.00 each
	12	Sold 150 widgets for $7.00 each
	13	Bought 500 widgets for $5.00 each
	20	Sold 400 widgets at $6.00 each
	22	Sold a further 100 widgets at $5.50 each
	24	Bought a further 200 widgets at $4.00 each
	29	Sold 150 widgets at $5.00 each

Calculate the COGS and gross profit for July, assuming a perpetual inventory system is employed:

1 using FIFO
2 using LIFO

PROBLEM 9.2

Calculations for perpetual versus periodic inventory

Razzamatazz Ltd uses a perpetual inventory control system. The following data are available:

	$
Inventory on hand at the beginning of the year (100 000 units at $5 cost each)	500 000
Purchases for the year (850 000 units at $5 cost each)	4 250 000
Sales for the year (865 000 units at $11 price each)	9 515 000
Inventory on hand at end of the year (70 000 units at $5 cost each)	350 000

1 Calculate the COGS expense for the year, based on the company's perpetual inventory system.
2 If the company had been using the periodic inventory method, what would the COGS expense for the year have been?
3 A perpetual system costs money to operate. Is it likely to be worthwhile for Razzamatazz?

PROBLEM 9.3

Journal entries for perpetual and periodic inventory

The following information is taken from the accounting records of Frog Ltd for the year ended 30 June 2019:

	$
Inventory 1 July 2018	40 000
Purchases (all credit)	120 000
Sales (all credit)	210 000
Inventory 30 June 2019	19 800
Operating expenses (all cash)	35 000
The company's mark-up is 50 per cent on cost.	

1 Assuming all purchases and sales were in single transactions, prepare summary journal entries and closing entries using:
   a perpetual inventory
   b periodic inventory.
2 Prepare income statements for the year ended 30 June 2019 using both inventory systems.

PROBLEM 9.4

Journal entries for perpetual and periodic inventory

The following information is taken from the accounting records of Bragg Ltd for year ended 30 June 2019:

	$
Inventory 1 July 2018	30 000
Purchases (all credit)	110 000
Sales (all credit)	180 000
Inventory 30 June 2019	18 600
Operating expenses (all cash)	35 000
The company's mark-up is 50 per cent on cost	

1 Assuming all purchases and sales were in single transactions, prepare summary journal entries and closing entries using:
   a perpetual inventory
   b periodic inventory.
2 Prepare income statements for the year ended 30 June 2019 using both inventory systems.

PROBLEM 9.5

Effects of change from perpetual to periodic inventory

Frogmorton Fashions began the period with inventory costing $30 000. During the period, $125 000 of additional inventory was purchased. At the end of the period, a physical count showed that inventory costing $38 000 was on hand. The firm's perpetual inventory system showed that inventory costing $114 000 had been sold during the period.

The general manager says, 'It's a bother keeping track of our inventory the way we do – our perpetual system requires continuous attention to inventory costs. What if we just used the periodic method? What difference would it make?' Give your reply.

PROBLEM 9.6

COGS/closing inventory

RUV commenced operations on 1 June 2019 selling one type of shirt. The company uses FIFO (first in, first out) and perpetual inventory control. The June inventory and sales records for the shirts were as follows:

Date		Purchase price unit	Units purchased	Units sold	Selling price per unit	Units on hand
June	1	$11	1 500			1 500
	10	$12	900			2 400
	12			300	$20	2 100
	17	$14	600			2 700
	23			1 800	$20	900
	27	$13	1 500			2 400
	29			700	$22	1 700
	30	$15	200			1 900

1. Calculate COGS for the month ended 30 June 2019.
2. Calculate the cost of ending inventory as at 30 June 2019.
3. Calculate gross profit for the month ended 30 June 2019.
4. Assume that on 30 June, a total of 400 units (not 200 units) were purchased for $17 each. Calculate the change in gross profit for the month ended 30 June 2019, based on this assumption.

PROBLEM 9.7

Cost flow assumptions

The BabyStyle Company is a retail firm buying and selling a single product: prams for babies. A system of perpetual inventory is employed. During the six months ended 30 June 2019 the inventory activity was as follows:

Purchases	
January commenced business, buying 20 units at $5 per unit	
March	30 units at $6 per unit
May	35 units at $7 per unit
Sales	
February	15 units at $10 per unit
April	30 units at $11 per unit
June	30 units at $12 per unit

1. Calculate the COGS for the six months and the closing balance of inventory, assuming:
   a. LIFO
   b. FIFO
   c. Moving average.

2 What is the gross profit for the period, assuming:
   a LIFO?
   b FIFO?
   c Moving average?
3 Briefly describe a cost-based inventory valuation method other than LIFO, FIFO or Weighted/Moving average cost.
4 Compare the effects of LIFO and FIFO on balance sheet valuation of inventory and net profit in periods of:
   a rising prices
   b falling prices.

PROBLEM 9.8

FIFO, LIFO, net realisable value

The following data relates to Fay Ltd, a company that buys and sells only one product:

Date		Transaction
May	1	1000 units on hand at $6 per unit
	2	Purchased 1200 units for $7 per unit
	11	800 units were sold for $7.50 per unit
	22	900 units were purchased for $7.50 per unit
	30	1100 units were sold for $8.00 per unit

1 Calculate the cost of ending inventory and the COGS, assuming:
   a a perpetual system using the LIFO cost flow assumption
   b a periodic system using the weighted average method.
2 Assume that, at the end of the month, you discover that the net realisable value of each item is $6.50. Calculate and prepare the journal entry to adjust inventory records, if required, assuming:
   a perpetual system using the LIFO cost flow assumption
   b periodic system using the weighted average method.

PROBLEM 9.9

FIFO and LIFO inventory cost calculations

The following information is taken from the accounting records of Golden Ltd for the year ended 31 December 2019. Golden Ltd uses a perpetual inventory system.

		Units	Purchase price per unit	Selling price per unit
January 1	Opening inventory	2 000	$56	
March 10	Purchases	2 200	$55	
June 25	Sales	1 800		$60
August 30	Purchases	1 800	$52	
October 5	Sales	2 500		$65
November 26	Purchases	3 000	$50	
December 31	Sales	2 000		$63

Determine the cost of ending inventory as at 31 December 2019 and the cost of goods sold and gross profit for the year ended 31 December 2019 assuming:
1 FIFO
2 LIFO.

PROBLEM 9.10

FIFO and LIFO inventory cost calculations

The following transactions relate to a computer game sold by Wiley Louvres Ltd for the period 1 January to 31 December 2019:

Date	Transaction
January 1	Beginning inventory – 4 units @ $150
March 3	Purchased 5 units @ $160
April 9	Sold 6 units
May 10	Purchased 5 units @ $165
August 22	Sold 4 units

1 Determine the cost of ending inventory as at 31 December 2019 and the COGS for the year ended 31 December 2019, assuming:
   - a a periodic system and the FIFO method
   - b a periodic system and the LIFO method
   - c a perpetual system and the LIFO method
   - d a perpetual system and the FIFO method.

   Show supporting calculations for each case.

2 As the above data show, no units of the computer game were sold in the last four months of the year. The marketing manager is concerned that the cost of the remaining games will not be recovered. Explain what effect, if any, there would be on the financial statements if the following occurred:
   - a The net realisable value of the game, as at 31 December, was estimated at $152 per unit *and* LIFO was used in conjunction with the perpetual system.
   - b The net realisable value of the game, as at 31 December, was estimated at $155 per unit *and* FIFO was used in conjunction with the periodic system.
   - c The net realisable value of the game, as at 31 December, was estimated at $152 per unit *and* LIFO was used in conjunction with the periodic system.

   Show calculations to support your answers.

PROBLEM 9.11

Analyse various possible inventory costing policies

Yang Ltd has been in business for three years and pays income tax at 30 per cent. The company manages its inventories well, so there are no significant inventories for which cost is less than net realisable value. Here are the company's inventory asset and COGS expense for the past three years, computed under each of three methods:

	2019 $	2018 $	2017 $
FIFO			
Ending inventory	112 000	148 000	115 000
COGS expense	636 000	867 000	585 000
AVGE			
Ending inventory	108 000	126 000	106 000
COGS expense	618 000	880 000	594 000
LIFO			
Ending inventory	104 000	118 000	92 000
COGS expense	614 000	874 000	608 000
Purchases in each year	600 000	900 000	700 000

1 Determine the inventory cost policy that would produce the highest and lowest profit in each year and calculate the effect on net profit of choosing the former over the latter.
2 Given the variation of results you observed in question 1, how should a company choose its inventory cost policy?

PROBLEM 9.12

Inventory cost and market calculations

Winedark Sea Ltd sells prints of classic paintings. The prints are done on expensive paper and are quite costly. Pricing the prints to sell is hard because the popularity of a print is difficult to predict. Sometimes prints don't sell well at all and are then disposed of in bulk for use in hotels and motels.

Here are data on two prints:

	Print X		Print Y	
	Units	Cost per unit $	Units	Cost per unit $
Inventory, 1 January 2019	4	340	11	500
Purchases during 2019:				
January–June	10	350	25	480
July–December	15	330	30	510
Sales during 2019	23		38	

1 Calculate the following:
  a Inventory cost, 31 December 2019, for Print X, FIFO basis
  b COGS, 2019, for Print Y, AVGE basis
2 Print Y hasn't sold since September. No one seems to like it any more. An out-of-town hotel has offered $100 for each Print Y that Winedark has left, if Winedark will pay the $10 per print shipping cost. What amount would you suggest be used for the inventory of Print Y on the 31 December 2019 balance sheet? Why?

PROBLEM 9.13

Inventory write-down

Due to increased competition, assume a wine producer has to write down its premium red wines by $40 million. In a stock count it also finds many cases of white wine (valued at $3 million) which are past their use-by date and needs to destroy this wine.

1 What would be the journal entry for the write-downs?
2 Why would a write-down in inventory lead to a possible decline in share price?

CASES

CASE 9A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 Would you expect Woolworths Limited to use a perpetual or periodic method of inventory valuation?
2 Does the company apply the lower of cost and net realisable value rule? Where is this noted?
3 What cost flow assumptions are used to value inventory?

CASE 9B Inventory and fraud

Inventory is an asset that is commonly subject to fraud. In one famous case in the United States, managers used fictitious inventory purchases to perpetuate a massive inventory fraud. MiniScribe Corporation was a company that manufactured and sold computer equipment. The fraud involved placing bricks in the boxes designed for merchandise, shipping them to customers and recording a sale when the box was shipped.

1. What would be the effect on the income statement and the balance sheet of shipping bricks and recording those shipments as sales?
2. Would this fraud be effective in the long run?

HOW'S YOUR UNDERSTANDING SOLUTIONS

9A Almost certainly you will find they use perpetual. If you ask them if they have a certain book they will check in their computer inventory records. The reasons for this include better reordering and control of theft.

9B $145 890 + $267 540 – $258 310 = $155 120; that is, $155 120 should be on hand. This is compared to the count of $152 730 and you can see that there is a shortage of $2390.

9C FIFO: closing inventory 100 × 13 = $1300; COGS 200 × 10 + 500 × 12 + 200 × 13 = $10 600.
LIFO: closing inventory 100 × 10 = $1000; COGS 100 × 10 + 500 × 12 × 300 × 13 = $10 900.

9D **(i)** Perpetual FIFO:
COGS = 60 × $5 + (50 × $5 + 70 × $6) + (10 × $6 + 80 × $7) = $1590
Closing inventory = 30 × $7 + 100 × $8 = $1010
Perpetual LIFO:
COGS = 60 × $6 + (110 × $7 + 10 × $6) + 90 × $8 = $1910
Closing inventory = 110 × $5 + 10 × $6 + 10 × $8 = $690
Useful tip: calculating that the total cost of goods available for sale was $2600 allows checking that COGS + closing inventory equals $2600.

(ii) The net realisable value is designed to prevent companies overstating their asset values and results in an adjustment to closing inventory. Therefore, under both FIFO and LIFO, closing inventory should be $650 (130 × $5). FIFO closing inventory should be reduced by $360 ($1010 – $650), LIFO by $40 ($690 – $650).

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1. Cost of goods sold:

	$
= Beginning inventory	246 720
+ Purchases	1 690 000
− Ending inventory	(324 800)
	1 611 920

2. If the correct COGS is $1 548 325, this means that some of what appeared to have been sold was not. It was lost or stolen, or it strayed! The amount lost is $63 595, which could be left in the COGS expense or could be shown separately, so that the COGS expense would be the accurate, smaller amount. Total expense would not be different; the perpetual method just allows it to be split into $1 548 325 COGS and $63 595 loss, which were lumped together under the periodic method. The need for the $63 595 adjustment indicates that the company has what seems a serious problem somewhere: there are errors in the records, inventories are being lost somehow or there are more sinister things going on, such as employee theft.

PRACTICE PROBLEM B

1 a Flows of physical units:

Date		Purchases $	Sales $	Balance $
Apr	1			150
	2	100		250
	6		70	180
	13		120	60
	15	200		260
	18		200	60
	23	50		110
		350	390	

Available cost: (150 × \$4) + (100 × \$5) + (200 × \$6) + (50 × \$7) = \$2650
Cost of goods sold (periodic basis):
LIFO = most recently purchased 390 units
= (50 × \$7) = (200 × \$6) + (100 × \$5) + (40 × \$4)
= \$2210
or = \$2650 − ending inventory
= \$2650 − (110 × \$4)
= \$2210

b FIFO = earliest purchased 390 units
= (150 × \$4) + (100 × \$5) + (140 × \$6)
= \$1940
or = \$2650 − ending inventory
= \$2650 − [(50 × \$7) + (60 × \$6)]
= \$1940

c Weighted average = average of available cost
= 390 × (\$2650 ÷ 500 units)
= \$390 × \$5.30
= \$2067
or = \$2650 − ending inventory
= \$2650 − (110 × \$5.30)
= \$2067

2 a Ending inventories (calculated in part 1):
LIFO = 110 × 4 = \$440

b FIFO = (50 × \$7) + (60 × \$6) = \$710

c Average = (110 × \$5.30) = \$583

3 a Using lower of cost or market: LIFO would not be affected, because its unit cost of \$4 is already below market.

b FIFO cost is above market, so the inventory value would be reduced to \$5 per unit, or \$550. The \$160 difference would be transferred to an expense account.

c Average cost is also above market, so the inventory value would also be reduced to \$550. The \$33 difference would be transferred to an expense account. (This would leave profit under FIFO and average cost the same, since both begin with the same inventory value (150 × \$4) and end with the same value (\$550).)

4

		Ending inventory	COGS
a	LIFO:		
	Ending = (60 × \$4) + (50 × \$7)	\$590	
	COGS = \$2650 − ending		\$2 060
b	FIFO:		
	Same as 1 and 2	\$710	\$1 940
c	Moving average:		
	First average: \$4		
	Second average: $\frac{(150 \times \$4) + (100 \times \$5)}{150 + 100} = \$4.40$		
	Third average: $\frac{(60 \times \$4.40) + (200 \times \$6)}{60 + 200} = \$5.63$		
	Fourth average: $\frac{(60 \times \$5.63) + (50 \times \$7)}{60 + 50} = \$6.25$		
	Ending: 110 × \$6.25	\$688	
	COGS = \$2650 − ending		\$1 962

COURSEMATE EXPRESS

WEBSITE RESOURCES

CourseMateExpress

Go to **http://login.cengagebrain.com** and use the access code that comes with this book for 12 months access to the resources and study tools for this chapter.

The CourseMate Express website contains:

- student revision quizzes
- glossary of key terms and flashcards
- and more!

10 Noncurrent assets

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 calculate the cost of an asset (10.1)

LO2 explain the concept of depreciation (10.2)

LO3 calculate depreciation expense using different depreciation methods (10.3)

LO4 explain how the different methods of depreciation have an impact on profit and the balance sheet (10.4)

LO5 prepare journal entries for the purchase, sale and depreciation of equipment and demonstrate the impact of these events on the financial statements (10.5)

LO6 prepare the accounting entries for asset revaluations (10.6)

LO7 explain what is mean by impairment (10.7)

LO8 identify the main types of intangible assets and the key accounting issues associated with intangible assets (10.8)

LO9 develop a basic understanding of the concept of goodwill (10.9)

LO10 understand the characteristics of a finance lease (10.10)

LO11 identify the key judgements made by managers regarding noncurrent assets (10.11).

CHAPTER OVERVIEW

In this chapter, we will consider three major categories of noncurrent assets: property, plant and equipment; intangible assets; and goodwill. 'Property, plant and equipment' refers to long-term assets that are acquired by an organisation for use in the organisation, over two or more accounting periods, for the production of goods and services. Examples include land, buildings, machinery, equipment, furniture, fittings and motor vehicles. Intangible assets are identifiable non-monetary assets that do not have a visible physical existence, unlike land, buildings, equipment and so on. Examples of intangible assets include patents, copyrights and internet domain names. Goodwill and intangible assets will be described later in the chapter.

10.1 The cost of an asset: basic components

LO1

The basic premise of historical cost valuation is to use the cost of an asset, at acquisition, to value that asset on the balance sheet. On the surface, this looks simple: you buy a truck for $25 000 and value the truck at $25 000. However, there is often more to the cost of an asset than just the simple invoice cost or direct cost. For example, when you purchase a big computerised manufacturing machine, it may cost you $500 000 for the actual machine. But in order to use the machine, certain environmental conditions must exist, such as temperature control, a raised floor for wiring and a fire protection system. Therefore, a section of the factory must be renovated to meet the specifications of the machine.

These costs, known as installation costs, are a good example of expenditures that are a component of the asset's cost. Overall, the cost of an asset includes all those costs directly attributable to making the asset *ready for use*. That can sometimes be difficult to determine. For example, suppose an organisation constructs a specialised new manufacturing machine, using some of its regular employees and resources. The cost of such assets, which an organisation constructs for itself rather than buying finished, will obviously include the cost of raw materials and labour needed to make them. But should the interest on monies borrowed to finance the project be included? This is a matter of judgement, and depends on the situation. Sometimes interest is included in the cost of such assets; most of the time it is not. Organisations often have policies for how to determine whether expenditures, such as interest, are included in assets' costs. These policies are designed to ensure that there is consistency in calculating cost and to fit the accounting to the organisation's particular circumstances. Usually, Note 1 to the financial statements discloses the policy with respect to interest.

Deciding what to include in an asset's cost can make quite a difference to the organisation's financial statements. Suppose Gondola Ltd has spent $100 000 this year on supervisors' salaries in connection with setting up a new mountain gondola ride at Mount Kosciuszko. If that cost is just deducted from revenue as an expense this year, that will reduce profit and income tax expense. But if the cost is added to the gondola ride asset instead, total assets will be higher, and this year's profit and income tax expense will be higher too. Over the next several years, profits and income tax expenses will be lower because of higher depreciation on the higher asset cost. So, aside from accounting appropriately and fairly for the asset, the decision about how to handle the supervisors' salaries will affect profit, assets and income tax expenses this year and in several future years. This decision is often called the capitalising versus expensing choice (including the expenditure with the assets versus deducting it as an expense in the current year), and you will see it several times in this book.

In summary, the components of the cost of an asset include all those costs that are required to make it suitable for the purpose intended, whether it be making a machine usable in the production process or bringing inventory into saleable condition. Some common components of the cost of an asset are listed in Exhibit 10.1.

EXHIBIT 10.1

COMMON COMPONENTS OF ASSET COST

LAND, BUILDINGS, EQUIPMENT

- Land:
  - purchase price, including real estate agent commissions
  - costs of obtaining clear title, such as legal fees and title searches
  - costs of clearing, removing unwanted structures, draining and landscaping.
- Building (purchased):
  - purchase price
  - renovation and upgrading costs to make it suitable for the intended use
  - initial painting and decoration.

>

- Building (self-constructed):
  - materials costs
  - labour costs (including employee benefits arising directly from construction)
  - excavating, surveying, engineering and design costs
  - insurance while constructing the building
  - perhaps some overhead costs and even financing costs incurred during construction.
- Purchased equipment:
  - purchase price including taxes
  - transportation costs
  - installation costs
  - testing costs
  - overhauls that extend the equipment's life or increase its value (betterments).

In the years following acquisition, the question of whether the asset cost should be changed will crop up again when repairs must be made. When a major repair or apparent improvement in the asset is done, the question to ask yourself is whether the asset's productivity or efficiency has been improved, or its useful life extended. If so, there has been a betterment of the asset and the cost of that should be capitalised (added to the cost of the asset). If not, the cost should just be charged to an expense, such as an account called repairs and maintenance expense.

HOW'S YOUR UNDERSTANDING?

10A Magnus Fabricators Ltd has just constructed a new factory building using company employees and equipment for most of the work. The company's accountant has said: 'Various costs must be capitalised to produce an appropriate balance sheet figure for the building's cost.' Which of the following costs should be included: architect's costs, removal of the old factory, excavation, the amount paid to workers who did the construction, employee benefit costs to staff working on the construction, and an estimate of costs to maintain the factory over the next five years?

10.2 Depreciation of assets and depreciation expense

LO2 Assets such as property, plant and equipment have value because the company intends to receive economic benefits from using them in the future. However, with the exception of land, all these assets must eventually be retired from service. Therefore, when purchasing an asset such as a building or equipment, the rational purchaser will at least have an approximate idea of how much benefit the asset will provide. For example, when buying a piece of equipment to slice bread, the baker must have a reasonable idea of how many years the equipment will last or how many loaves it will slice before it wears out. If we can estimate how many loaves it will slice, we can then deduct the cost of the machine from revenue (in calculating profit) a part at a time, over the number of years it will take to bake that many loaves of bread. The process of allocating the cost over years of benefit is called depreciation, and the annual deduction from revenue is depreciation

expense. All property, plant and equipment assets – except land – are depreciated under generally accepted accounting principles (GAAP).

A short comment on terminology may be helpful here. This section, and this book in general, use the terms 'amortisation', 'depreciation' and 'depletion'. In Australia, *depreciation* is used when physical assets, such as buildings and equipment, are involved; *depletion* is used when wasting assets, such as timber sales or ore bodies, are involved; and *amortisation* is used when various intangible assets and leases are involved.

Several questions need to be answered before we present examples of depreciation methods. These are outlined below.

Why allocate the cost?

Assets are resources of the organisation that are used to generate revenue for the owners and, ultimately, a return on their investment. One of the objectives of accrual accounting is to attempt to match expenses with the revenue earned. In the case of long-lived assets, the cost will benefit many periods in which revenue is earned. Therefore, some method is needed to allocate the cost of long-lived assets over their useful lives. If the whole asset cost was deducted from profit in the period in which it was acquired, that would make that period's profit relatively low, and subsequent periods' profits relatively high. It would also mean that an asset that has further benefits is not recognised. So, depreciation spreads the cost of the asset out over all the periods that share in the consumption of the asset's economic value. For example:

- A bread slicer costs $5000 and will have no value after eight years. Therefore, depreciation of $5000 over eight years ($625 of depreciation expense each year) shows that using up the slicer's value over those eight years costs us something. We have a $5000 asset now; in eight years we will have no asset.
- This cost allocation system is somewhat arbitrary, because it is based on expectations that occur when the asset is acquired, not on tracking changes in market value; for example, over the time the asset is used. Over that time, the cost and resale value of slicers may keep changing due to inflation, market conditions or technological change. We may be able to resell the slicer for only $3000 after one year, so perhaps the economic value used up in that year is $2000. Nevertheless, if our depreciation method specifies $625 per year, that is what we use.

It is essential to understand that the accounting concept of depreciation involves an allocation of cost in order to measure profit. It is *not* a system to track value changes in assets or to measure the current value of those assets in the balance sheet. Depreciation recognises an expense (based on historical cost) that it is presumed matches the revenue generated by using up the asset's economic value. The balance sheet shows the net of the asset's original cost minus accumulated depreciation: it does not mean the asset's current value is that net amount.

In the above example, after one year, the balance sheet shows the slicer at $4375 ($5000 cost less $625), not at $3000 or any other measure of current value. The accounting meaning of depreciation is very specific: *an allocation of cost as a deduction from profit over the useful life of the asset*.

Why not depreciate land?

The basic answer to this question is that land's economic value is not considered to decline through use.

- As a machine is used in a production process it wears out. Other natural processes, such as wind, rain, rust, fatigue and corrosion, all keep assets from providing benefit indefinitely.
- There are also non-physical causes of economic amortisation. A machine can become obsolete with the advent of newer and faster machines; economic conditions in an area can result in the closure of a plant that has many productive years left but cannot be profitable any more. While your mobile phone could last five years, new developments and fashion may mean you no longer find it useful after two years.

Land is considered to be immune from all this, and is therefore not depreciated. If evidence of a loss of land value does appear, the land's cost can be reduced to a revised value, but that is a special case and is an impairment (or write-down) rather than depreciation. Impairment is discussed later in this chapter.

When does cost allocation (depreciation expense) begin?

Depreciation is meant to provide an expense to match the economic benefit obtained from the use of the asset. Therefore, when the asset is put to use and the benefit begins to be realised, depreciation expense should begin. In Chapter 5, journal entries for depreciating assets as part of accrual accounting were explained. The general pattern is to capitalise costs incurred on the asset before putting it into service, and then, when the asset is put into service, to depreciate those costs.

This pattern is illustrated in the chart in Figure 10.1. The line sloping downward from cost need not be a straight one, as you will see.

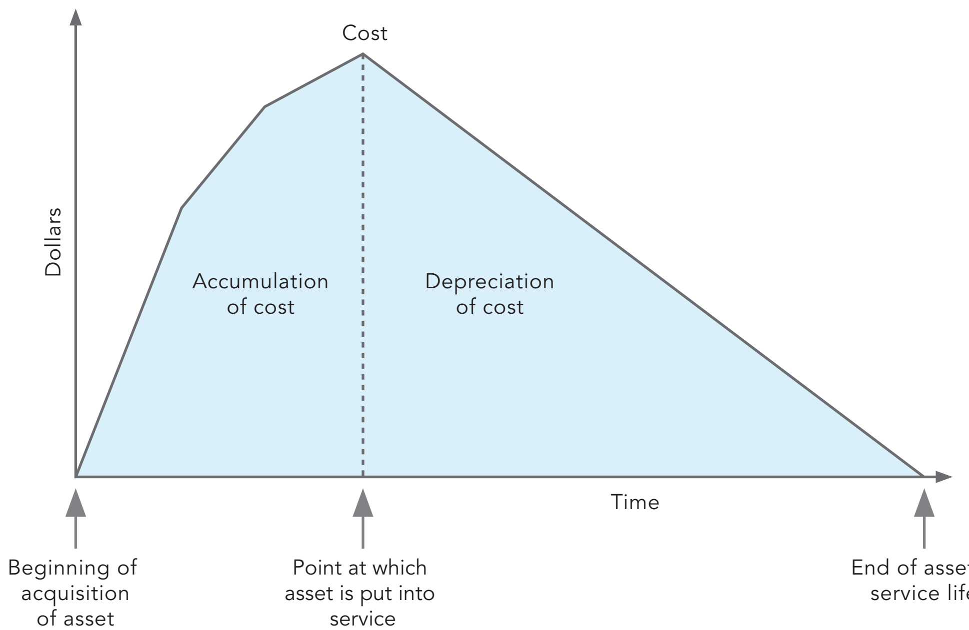

FIGURE 10.1 When does depreciation begin?

Once the asset has been put into service, further costs involved in painting, maintenance, repairs and so on are now considered to be expenses – they are part of the cost of keeping the asset on its planned path of decline over its useful life. If a cost that is incurred after the asset goes into service significantly changes that asset's economic value in earning revenue or extends its useful life, such a betterment may properly be capitalised as part of the asset's cost, then depreciated along with the rest of the asset's cost.

Other questions

Does depreciation affect cash flow? Is it exact? What effect does it have on income tax?

Depreciation is recognised by the following journal entry:

DR	Depreciation expense
CR	Accumulated depreciation

Accumulated depreciation is a contra asset. The entry has no cash component. Therefore, depreciation has no cash effect.

Depreciation, no matter how carefully it is calculated, is never exact. It involves a prediction of economic use and useful life, and such a prediction can easily be wrong. Any depreciation amount is fundamentally arbitrary; for that reason, most companies prefer fairly simple calculations rather than complex guesses!

In Australia, and most other countries, a company does not necessarily have the same depreciation figure for accounting and tax purposes. For example, the company may believe the asset has a life of 10 years and therefore depreciate it at 10 per cent per year for accounting purposes. Tax rules may stipulate (or provide advisory rates under self-assessment) that it is to be depreciated over 12 years; that is, at 8.33 per cent per year. Thus, the choice for accounting purposes does not affect the tax paid.

Depreciation does not match actual market value changes in assets, it has no cash effect and it is an estimate only! What good is it? That's a question often asked, and the answer goes back to the matching criterion and the historical cost basis of accrual accounting. We know that some economic value is being used up as a depreciable asset is used to earn revenue. We end up with a way of spreading the cost out over the useful life of the asset that matches the presumed consumption of that cost with the benefits (revenue) gained from that use.

HOW'S YOUR UNDERSTANDING?

10B You put into service a \$500 000 machine on 1 July 2016. It has an estimated useful life of five years and no value at the end of its useful life.

(i) At 30 June 2019, what is the accumulated depreciation?

(ii) At 30 June 2019, what is the book value?

(iii) How would it appear in the balance sheet at 30 June 2019?

10.3 Depreciation bases and methods

Several depreciation methods are commonly used today. Different methods attempt to approximate different economic use patterns for the assets over their lives. In each case, the purpose is to *match* the depreciation expense for each period with the presumed economic benefit obtained during that period, often in a simple way, since depreciation is an estimate rather than an exact measure of value changes. LO3

As noted in section 5.5, which discusses contra accounts, the accumulated depreciation account is a balance sheet offset account to the asset cost account. Over time, it accumulates the total of the depreciation expense recorded over the years.

There are three basic assumptions about how an asset brings economic benefit, and one general kind of depreciation for each assumption:

Assumption	Kind of cost allocation
1 Spread evenly over the asset's life	*Straight-line*
The consumption of economic benefits is equal throughout an asset's useful life.	Expense is the same each year of the useful life.
2 Highest in the early years and decreases over the asset's life	*Reducing balance method*
The consumption of economic benefits is higher in the earlier years than in the later years.	Expense is larger in the earlier years than in the later years.
3 Variable over the asset's life	*Units of production/Units of use*
The consumption of economic benefits varies according to how much production is achieved each year.	Expense depends on each year's volume of production or usage.

These three general kinds of depreciation methods are compared graphically in Figure 10.2. Each has a different depreciation expense per period and a different pattern of book value. (Book value equals cost minus accumulated depreciation, so, because cost is constant, the book value pattern comes from the accumulation of the depreciation.)

Let's see how to calculate depreciation using the three different bases.

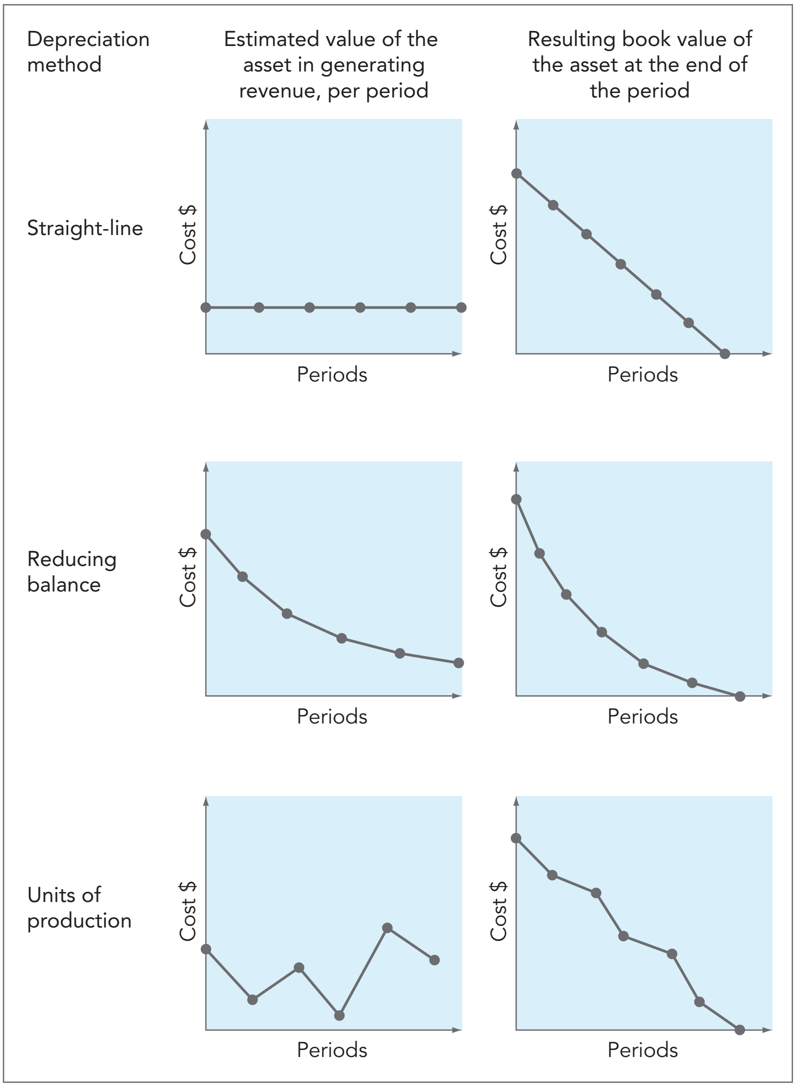

FIGURE 10.2 Three depreciation methods

Straight-line depreciation

Straight-line depreciation, depicted in the top panel of Figure 10.2, is the simplest and most widely used of all the depreciation methods. Three pieces of information are necessary in order to calculate straight-line depreciation.

- *cost of the asset:* the total cost to be depreciated over time (the amount capitalised to the date the asset is put into service)
- *estimated useful life of the asset:* the number of periods for which the asset is expected to benefit the organisation

- *estimated residual value:* the amount expected to be recovered via the sale of the asset at the end of its useful life – which is likely to be only an educated guess, and is often assumed to be zero for purposes of calculating depreciation over long periods of time.

  The formula for straight-line depreciation is:

$$\text{Depreciation for one period} = \frac{\text{Cost} - \text{Estimated residual value}}{\text{Estimated useful life (number of periods)}}$$

Using the above formula, annual depreciation on a delivery truck used by a local business would be calculated this way:

- Cost of the truck = \$5000
- Estimated useful life = six years
- Estimated residual value after six years = \$800.

$$\text{Depreciation for one year} = \frac{5000 - 800}{6}$$
$$= 700$$

At the end of the first year, the net book value of the truck will be:

Cost – Total depreciation to date	=	\$5000 – \$700
	=	\$4300

Each year the following journal entry would be made:

		\$	\$
DR	Depreciation expense	700	
CR	Accumulated depreciation		700

Depreciation expense for each of the six years will be \$700, reducing the book value by \$700 per year. As shown in Figure 10.2, the constant expense produces a linear increase in accumulated depreciation and, therefore, a linear decline in book value.

A common practice for many firms is to assume the residual value of the asset to be zero, which then enables depreciation to be expressed in terms of percentages instead of years. For example, a company might use straight-line depreciation expressed as 16.66 per cent of historical cost, rather than as a term of six years.

The effect on the financial statements of depreciation can most clearly be seen by constructing a depreciation schedule. Assume equipment cost \$300 000 and has a three-year expected life with no residual value and that straight-line depreciation is used. The date of acquisition is labelled Year 0.

Year	Depreciation expense \$	Accumulated depreciation \$	Net book value \$
0			300 000
1	100 000	100 000	200 000
2	100 000	200 000	100 000
3	100 000	300 000	0

On the face of the balance sheet it is normal to put the net book value with a note to the financial statements showing cost price (\$300 000) and the accumulated depreciation. For example, at Year 1 the face of the balance sheet would show:

	\$
Equipment (net)	200 000

The note to the financial statements at Year 1 would show:

	$
Equipment (cost)	300 000
Less: Accumulated depreciation	100 000
Equipment (net)	200 000

Reducing balance method

Some assets contribute more of their benefit to the organisation in the early parts of their lives. For example, a new computer may benefit the company greatly when it is first purchased, but because of quickly changing technology and changing needs as the company grows, this same computer may be relegated to less important tasks within a few years of its purchase, as better computers are acquired. Therefore, even though the computer will continue to benefit the company, most of its economic value has been consumed near the beginning of its life. In Australia, the reducing balance method is the next most common depreciation method after straight-line.

Information needed for this procedure is:

- *cost of the asset*
- *accumulated depreciation:* total depreciation recorded since the acquisition of the asset
- *depreciation rate:* the percentage of the book value (cost minus depreciation to date) of the asset that is to be depreciated in the period.

The formula for the reducing balance method is:

Depreciation for one period = (Cost – Accumulated depreciation) × Rate
= Remaining book value of the asset × Rate

Let's use the reducing balance method to calculate depreciation for the six-year life of the same truck you saw above. With this method, the depreciation rate is established such that, over the asset's life, the cost will be fully depreciated. Doing this exactly requires complex algebra, so approximate rates are usually used. For example, Australian companies that use this method normally use 150 per cent of the straight-line percentage, assuming no residual value. This is what many of them use for taxation purposes.

The truck has a life of six years (straight-line depreciation is 16.66 per cent per year). Because 150 per cent of the straight-line rate would be 25 per cent, we will use 25 per cent to approximate the economic consumption pattern:

- cost = $5000
- depreciation to date = $0 (at beginning)
- depreciation rate = 25 per cent.

Year 1	
Depreciation for the year	= ($5000 – $0) × 25%
	= $1250
Accumulated depreciation to date	= $1250
Remaining book value	= $3750 (i.e. 5000 – 1250)
Year 2	
Depreciation for the year	= ($5000 – $1250) × 25%
	= $938 (cents rounded up)
Accumulated depreciation to date	= $2188
Remaining book value	= $2812
Depreciation expense gets smaller with each year.	

>>

<<

Year 3	
Depreciation for the year	= ($5000 − $2188) × 25%
	= $703
Accumulated depreciation to date	= $2891 (2188 + 703)
Remaining book value	= $2109
Year 4	
Depreciation for the year	= ($5000 − $2891) × 25%
	= $527
Accumulated depreciation to date	= $3418 (2891 + 527)
Remaining book value	= $1582
Year 5	
Depreciation for the year	= ($5000 − $3418) × 25%
	= $396
Accumulated depreciation to date	= $3814 (3418 + 396)
Remaining book value	= $1186
Year 6 – Last year of estimated life	
Calculation of depreciation for the year	= ($5000 − $3814) × 25%
	= $297 (NB: Does not result in a residual value of $700, so then calculate amount of depreciation remaining)
Depreciable amount remaining	= ($5000 − $3814 − $700)
	= $486
Accumulated depreciation to date	= $4300 (3814 + 486)
Remaining book value	= $700

Note that when using reducing balance depreciation, as shown in the above example, the calculation of the depreciation expense is a little different in the last year of its useful life to ensure that the remaining book value of the truck becomes the expected residual value of $700. Consequently, the book value at the end of the estimated life would be the same irrespective of choice of method.

The second panel of the chart in Figure 10.2 shows the kind of patterns of depreciation expense and book value we calculated for the truck. The expense and book value lines are curved lines rather than straight lines.

The reducing balance percentage is sometimes calculated using the following formula, which is applied to the original cost.

$$r = 1 - \sqrt[n]{\frac{s}{c}}$$

where r = required depreciation rate
n = estimated life in years
s = estimated residual value
c = original cost

This formula operates satisfactorily only if the estimated residual value is substantially greater than zero, as the result is very sensitive to small movements near zero.

If an asset has an original cost of $30 000, a life of five years and an estimated residual value of $5000, the rate would be:

$$1 - \sqrt[5]{\frac{5000}{30\ 000}} = 30\%\ \text{approximately}$$

Units of production or units of use depreciation and depletion

The economic consumption of many assets is not necessarily a function of time, but rather of use. For example, it may make more sense to say that the delivery truck is expected to last so many kilometres rather than so many years. The consumption of natural resources (wasting assets) is also often accounted for using units of production, because the value to the organisation of a stand of timber, or an oil well, is tied to the number of trees remaining to be felled or the amount of oil left to be recovered. Therefore, the units of production method of depreciation is also used to compute the depletion of natural resources.

To compute the depreciation or depletion per unit of usage, the following information is needed:

- *cost of the asset*
- *estimated residual value*
- *estimated number of units to be produced during the life of the asset:* the estimated number of tonnes of ore extracted from a mine, the estimated number of kilometres that the delivery truck will travel or another production measure.

The formula for computing units of production depreciation is:

$$\frac{\text{Depreciation or depletion for one unit}}{\text{of use or production (e.g. a kilometre)}} = \frac{\text{Cost} - \text{Estimated residual value}}{\text{Estimated no. of units of use or production during life}}$$

To determine depreciation for the year, the charge per unit is multiplied by the number of actual units produced or used. Using the delivery truck as an example again, depreciation of the truck over its expected useful life might be:

- cost = \$5000
- estimated residual value = \$800
- estimated number of kilometres to be driven = 210 000.

$$\text{Depreciation per km} = \frac{\$5000 - \$800}{210\ 000}$$

$$= \$0.02 \text{ depreciation/km}$$

Year 1

If the truck is driven 20 000 kilometres during the year, the depreciation charge for the year will be:

$$\$0.02 \times 20\ 000 = \$400$$

Year 2

If the truck is driven 80 000 kilometres during the second year, the depreciation charge for the year will be:

$$\$0.02 \times 80\ 000 = \$1600$$

Year 3

If the truck is driven 65 000 kilometres during the year, the depreciation charge for the year will be:

$$\$0.02 \times 65\ 000 = \$1300$$

Year 4

Suppose the truck is driven 50 000 kilometres during the year. However, after 45 000 kilometres, the truck will be fully depreciated (i.e. it has been driven the estimated 210 000 kilometres). Therefore, the depreciation charge for the year will be just the remaining \$900, which is less than \$0.02 × 50 000 km.

The bottom panel in Figure 10.2 illustrates units of production depreciation. It is the only method that can result in the annual depreciation expense going up and down from period to period.

Depletion of a wasting asset and units of production depreciation of a fixed asset are computed in the same manner, but depletion refers to the physical consumption of an asset, rather than just the economic consumption. For the timber, residual value may be the value of the land after all the timber has been cut. In Australia, this method is often used in the mining industry.

10.4 Depreciation example

Here is an example. Greco Limited has purchased a factory at a cost of $23 million (not including land). The general manager wants to know what difference it would make if the company used straight-line, reducing balance or units of production depreciation. LO4

- Estimated useful life is 20 years, during which time the company plans to make about 100 million boxes of its standard product.
- Estimated residual value after the end of the useful life is $5 million.
- If reducing balance depreciation were used, assume 10 per cent per year on the reducing balance.
- Production plans call for production, over the next six years, of four, nine, nine, eight, nine and five million boxes per year, and likely stable production of about four million boxes per year for the remaining 14 years.

The resulting depreciation bases would be:

- straight-line: $23 000 000 − $5 000 000 = $18 000 000 over 20 years (5 per cent of base per year)
- reducing balance: $23 000 000 − accumulated depreciation × 10% per year
- units of production: $18 000 000/100 000 000 boxes = $0.18 per box produced.

If everything turns out as expected, the annual depreciation expense for the next 20 years will be as follows:

	Straight line expense	Reducing balance		Units of production expense
		Begin book value	Expense	
	$	$	$	$
1	900 000	23 000 000	2 300 000	720 000
2	900 000	20 700 000	2 070 000	1 620 000
3	900 000	18 630 000	1 863 000	1 620 000
4	900 000	16 767 000	1 676 700	1 440 000
5	900 000	15 090 300	1 509 030	1 620 000
6	900 000	13 581 270	1 358 127	900 000
7	900 000	12 223 143	1 222 314	720 000
8	900 000	11 000 829	1 100 083	720 000
9	900 000	9 900 746	990 075	720 000
10	900 000	8 910 671	891 067	720 000
11	900 000	8 019 604	801 960	720 000
12	900 000	7 217 644	721 764	720 000
13	900 000	6 495 880	649 588	720 000
14	900 000	5 846 292	584 629	720 000
15	900 000	5 261 663	261 663*	720 000
16	900 000	5 000 000	0	720 000
17	900 000	5 000 000	0	720 000
18	900 000	5 000 000	0	720 000
19	900 000	5 000 000	0	720 000
20	900 000	5 000 000	0	720 000
Total	18 000 000		18 000 000	18 000 000

*Note that the reducing balance method accelerates depreciation expenses such that no further depreciation expense is required after around 15 years in this example

At the end of 20 years, if everything works out as expected, the book value of the factory will be:

- straight-line: $23 000 000 − $18 000 000 = $5 000 000
- reducing balance: $23 000 000 − $18 000 000 = $5 000 000
- units-of-production: $23 000 000 − $18 000 000 = $5 000 000

If, at the end of 20 years, the factory is sold, there will be a gain or a loss on the sale that will equal the sale proceeds minus the book value. The proceeds may not be the expected $5 million. If they are not, there will be a gain or loss on the sale for even the simplest method (i.e. straight-line).

The units of production method will almost certainly result in a book value that is not exactly equal to $5 million, even though it is planned to equal that. This is because the actual production will be very unlikely to exactly equal 100 million boxes over 20 years.

Whichever method is adopted, the company can always adjust its calculations later if the expectations about length of useful life or residual value begin to look seriously inaccurate. For now, note that it is usual to allocate the remaining book value over the remaining useful life. For example, an asset was expected to have a useful remaining life of 10 years, but after the fifth year it had a book value of $60 000; it was decided that it would only be used for another three years. The depreciation for each of the last three years would be $20 000.

Most Australian companies use straight-line depreciation unless this would lead to misleading financial statements.

HOW'S YOUR UNDERSTANDING?

10C Explain to the general manager of Cold Lake Manufacturing Ltd, which opened for business at the beginning of this year, what depreciation expense is supposed to accomplish and the criteria you would recommend the company use in choosing the most appropriate method.

10.5 Gains and losses on noncurrent asset disposals

LO5 Gains and losses have been mentioned and illustrated in various ways since Chapter 4. This section is intended to pull the ideas together for you and show you how they are partly the consequences of accounting policy choices.

In the above Greco example (see section 10.4), there was a possibility of a gain or a loss on the sale of the factory in the 20th year. When a noncurrent asset is sold, it could be handled as ordinary revenues are: the proceeds could be added to revenue and the book value of the asset added to the COGS. But this would mix the day-to-day revenues from the activities of the organisation with the occasional (and, presumably, less economically important) revenues resulting from reducing long-term fixed assets or other investments.

Therefore, such events are kept separate from ordinary revenues via the following kind of journal entry, which we have seen before:

DR	Cash or non-trade receivables (proceeds)	XXXX		
DR	Accumulated depreciation on that asset (all that has accumulated)	XXXX		
DR	Loss (or CR Gain) on sale	XXXX	or	XXXX
CR	Noncurrent asset (for original cost)			XXXX

The gain or loss is just the difference between the proceeds and the book value (cost minus accumulated depreciation, if any).

Here is an example. Company X has a truck that cost $84 000. The accumulated depreciation at the date of sale is $46 000. Therefore, book value is $38 000 at the date of sale.

- If the company sells the truck for $52 000, there is a gain on sale of $14 000 ($52 000 − $38 000). The journal entry would be:

		$	$
DR	Cash	52 000	
DR	Accumulated depreciation	46 000	
CR	Gain on sale		14 000
CR	Truck		84 000

- If the company sells it for $30 000, there is a loss on sale of $8000 ($38 000 − $30 000). The journal entry would be:

		$	$
DR	Cash	30 000	
DR	Accumulated depreciation	46 000	
DR	Loss on sale	8 000	
CR	Truck		84 000

Think of gains and losses as depreciation corrections:

- If the company knew in advance what the proceeds would be and when the sale would happen, it could have depreciated the asset down exactly to the proceeds amount by that date. So, if the proceeds equal book value, there is no gain or loss.
- If the proceeds are less than book value, there is a loss: in effect, more depreciation is needed and that's what the loss really is.
- If the proceeds are *more* than book value, there is a gain: in effect, too much depreciation was taken, and the gain is really just that excess (which caused the lower book value) being recognised.

HOW'S YOUR UNDERSTANDING?

10D A company sells a piece of equipment (cost $40 000 and accumulated depreciation $25 000) for $5000 cash. What would be the journal entry?

10.6 Asset revaluations

Australian companies are allowed to partly depart from historical cost by revaluing noncurrent assets. This is also permitted in many other countries, and is referred to as the use of fair value accounting. LO6

Accounting standards state that each class of noncurrent assets must be measured using either (a) the cost model or (b) the revaluation model, which has a fair value basis. Class of asset refers to the category of assets; for example, land, buildings, equipment, motor vehicles, office equipment and aircraft. This means that managers must choose which method they will employ and disclose this choice in the notes to the financial statements.

Under the cost model, after recognition of an asset, the asset is carried at cost less accumulated depreciation and any accumulated impairment losses, but this carrying amount cannot exceed the recoverable amount. (More on impairment in the next section of this chapter.)

Under the revaluation model, after recognition of an asset, the asset whose fair value can be measured reliably is carried at a revalued amount, which is the fair value at the date of revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Fair value is defined as the

amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's length transaction. In determining fair value, market prices are used if there is an active and liquid market for the asset. If not, the best available evidence is used; for example, current market prices of similar assets, prices of recent transactions of similar assets or appraisals by professional valuers.

Assets can either be revalued upwards (revaluation increment) or downwards (revaluation decrement) from their carrying amounts (often called book value). The accounting standards on revaluations have the purpose of ensuring that users of the financial statements have relevant and reliable information for evaluating the performance, financial position, financing and investing of the organisation.

When there is an increment, the amount of the increment is reflected in other comprehensive income and then is accumulated in the shareholders' equity section of the balance sheet under the heading of 'revaluation surplus' (previously called 'an asset revaluation reserve'). (The concept of a reserve is discussed in more detail in Chapter 12.) So if you see a balance in the revaluation reserve, it simply tells you the amount by which assets have been revalued over time. For example, if land is revalued from $11 million to $12 million, both the land account and the revaluation surplus account would increase by $1 million. However, because of conservatism, if there was a revaluation decrement to $10 million, the decrement would be recognised as an expense in the income statement. That is, an expense (loss on devaluation of land) would increase, and land would decrease. In summary, increments in asset valuations do not generally affect profit directly, but decrements do reduce the profit for the year (see exceptions below). Also note that changes in asset valuation (except for land) result in different depreciation expenses in subsequent years.

When a class of noncurrent assets is measured on the fair value basis, revaluations need to be made regularly to ensure that the carrying amount does not materially differ from fair value. Revaluing every three years is quite common.

The standards state that when an asset is revalued, all assets within the same class of assets should also be valued at the same time on a consistent basis. For example, if one block of land is revalued, all other blocks of land should be revalued on a consistent basis; similarly for buildings, plant and equipment. Note that a downwards revaluation of a noncurrent asset must be undertaken when its carrying amount is greater than its recoverable amount. When the fair value basis is used, the required disclosures include the effective date of the revaluation, the method and significant assumptions used in determining fair value and whether an independent valuation has been obtained.

Now let's consider the debits and credits. Where there is an asset revaluation increment, the amount of the increment is credited to a revaluation surplus. For example, if land is revalued from $11 million to $12 million, the entry would be:

		$	$
DR	Land	1 000 000	
CR	Revaluation surplus		1 000 000

However, if there had been a revaluation decrement to $10 million, the decrement would be recognised in an income statement account. The entry would be:

		$	$
DR	Loss on devaluation of land	1 000 000	
CR	Land		1 000 000

There are some important exceptions when revaluations are occurring on an ongoing basis for the same class of assets. If an increment reverses a revaluation decrement previously recognised as an expense in the income statement with respect to that same class of assets, the increment would be recognised as income. Similarly, if a revaluation decrement reverses a preceding revaluation increment that was credited to revaluation surplus for the same class of assets, it will be debited directly to the revaluation surplus.

Further complications arise when we consider assets that are depreciated, such as equipment. Australian accounting standards allow entities to choose one of two treatments to account for accumulated depreciation at the date of revaluation. The most widely used treatment is described below.

At the time of revaluation, the accumulated depreciation on those assets is credited to the asset account. The asset account is then increased or decreased by the amount of the revaluation increments or decrements. For example, if equipment cost $2 million (with accumulated depreciation of $500 000) and was revalued to $2 500 000, the entries would be:

		$	$
DR	Accumulated depreciation	500 000	
CR	Equipment		500 000

This entry has transferred the relevant accumulated depreciation as an offset to the equipment account. The equipment is now carried at a net balance of $1 500 000. To revalue it to $2 500 000, the following entry would occur:

		$	$
DR	Equipment	1 000 000	
CR	Revaluation surplus		1 000 000

When the asset previously revalued is sold, the gain or loss on disposal is measured as the difference between the carrying value at the time of disposal and the net proceeds. You will cover these issues, and other more advanced matters, in subsequent courses.

We realise that the above sections are difficult for an introductory book. However, at least by seeing the journal entries, even if you don't fully understand them at this stage, you will be in a better position to comprehend the meaning and value of the noncurrent assets section and the revaluation surplus in the balance sheet.

FOR YOUR INTEREST

Here is a typical description of revaluations from Harvey Norman Holdings Limited.

Revaluation of owner-occupied properties

Following initial recognition at cost, owner-occupied land and buildings (including leasehold land) are carried at fair value less any subsequent accumulated depreciation on buildings and accumulated impairment losses. Fair value is determined by reference to market-based evidence, which is the amount for which the assets could be exchanged between a knowledgeable willing buyer and a knowledgeable willing seller in an arm's length transaction as at the valuation date. Owner-occupied properties, upon any revaluation, are valued at fair value, determined by independent licensed valuers, or directors' valuations where necessary.

Any revaluation surplus is recorded in other comprehensive income and credited to the asset revaluation reserve in equity. However, to the extent that it reverses a revaluation decrease of the same asset previously recognised in the income statement, the increase is recognised in the income statement. Any revaluation deficit is recognised in the income statement, except to the extent it offsets a previous surplus of the same asset in the asset revaluation reserve.

Any accumulated depreciation as at revaluation date is eliminated against the gross carrying amount of the asset and the net amount is restated to the revalued amount of the asset. Upon disposal, any revaluation reserve relating to the particular asset being sold is transferred to retained earnings.

Valuations are performed with sufficient regularity to ensure that the carrying amount does not differ materially from the asset's fair value at the balance date.

Source: Harvey Norman Holdings Limited, *Annual Report 2017*, pp. 79–80.

10.7 Asset impairment

LO7 In Australia, directors need to ensure that the carrying amount of an asset does not exceed the recoverable amount. If the carrying value is greater than the recoverable amount, the asset is said to be impaired and an impairment loss is recognised and the asset written down to its recoverable amount. Recoverable amount is the higher of fair value less costs to sell (where fair value is the amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's length transaction) and value in use (the present value of future cash flows expected to be derived from the asset). For example, if an airline has a plane with a carrying value of $80 million, the recoverable amount is the higher of what someone (e.g. another airline) will pay to buy the plane or the expected future cash flows from flying the plane over the remainder of its expected life (cash inflows from ticket sales less cash outflows related to those flights). When the asset is impaired (i.e. recoverable amount is less than carrying value) it is necessary that an impairment loss is recognised and the asset written down to the recoverable amount. This impairment loss is recognised in the income statement.

If it is a non-depreciable asset (e.g. land) then:

DR	Impairment loss
CR	Land

If it is a depreciable asset (e.g. equipment) then:

DR	Impairment loss
CR	Accumulated depreciation – equipment

In the latter case, the accumulated depreciation is effectively brought forward in time; that is, the expense is recognised in an earlier period than originally expected.

At each reporting date, companies need to assess whether there is any indication that impairment should be fully or partly reversed. When the carrying value of a previously impaired asset is greater than its recoverable amount, a company can reverse the impairment but this amount cannot result in the carrying amount being greater than what it would have been without the previous impairment; that is, you can't revalue above cost – accumulated depreciation under the cost method.

As noted above, the impairment losses are shown in the income statement, and if large are shown as a separate item usually labelled as 'Impairment'.

HOW'S YOUR UNDERSTANDING?

10E Here is a typical description of 'Impairment', extracted from Note 1 of the 2017 financial statements of Harvey Norman Holdings Limited:

Impairment of non-financial assets

The consolidated entity assesses, at each reporting date, whether there is an indication that an asset may be impaired. If any indication exists, or when annual impairment testing for an asset is required, the consolidated entity estimates the asset's recoverable amount. An asset's recoverable amount is the higher of an asset's cash generating unit (CGU) fair value less costs to sell and its value in use. Recoverable amount is determined for an individual asset, unless the asset does not generate cash inflows that are largely independent of those from other assets or groups of assets, in which case, the recoverable amount is determined for the CGU to which the asset belongs. When the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

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In determining fair value less costs to sell, recent market transactions are taken into account, if available. If no such transactions can be identified, an appropriate valuation model is used. These calculations are corroborated by valuation multiples, quoted share prices for publicly traded subsidiaries or other available fair value indicators.

The consolidated entity bases its impairment calculation on detailed budgets and forecast calculations, which are prepared separately for each of the consolidated entity's CGUs to which the individual assets are allocated. These budgets and forecast calculations generally cover a period of five (5) years. For longer periods, a long-term growth rate is calculated and applied to project future cash flows after the fifth year.

Source: Harvey Norman Holdings Limited, *Annual Report 2017*, p. 81.

From what you have read, try to define each of the following terms from the above extract:

(i) carrying amount
(ii) recoverable amount
(iii) fair value less costs to sell
(iv) value in use.

10.8 Intangible assets

LO8

Intangible assets are identifiable, non-monetary assets that do not have a visible physical existence, unlike land, buildings or equipment. Examples of intangible assets include:

- *patents, copyrights, trademarks* and other such legal property; for example, the 2017 financial statements of Telstra describes 'Acquired intangible assets' as follows:

> We acquire other intangible assets either as part of a business combination or through a separate acquisition. Intangible assets acquired in a business combination are recorded at their fair value at the date of acquisition and recognised separately from goodwill. Intangible assets acquired through specific acquisition are recorded at cost.
>
> Management judgement is required to determine the appropriate fair value of identifiable intangible assets acquired in business combinations. This involves estimating timing and amounts of future cash flows derived from the use of these assets as well as an appropriate discount rate to be applied to the forecast cash flows. Such estimates are based on current forecasts, extrapolated for an appropriate period and taking into account growth rates, operating costs and the expected useful life of the assets.
>
> Intangible assets that are considered to have a finite life are amortised on a straight line basis over the period of expected benefit. Intangible assets that are considered to have an indefinite life are not amortised but tested for impairment on an annual basis or when an indication of impairment exists.
>
> Telstra Corporation Limited, *Annual Report 2017*, https://www.telstra.com.au/content/dam/tcom/about-us/investors/pdf-e/Annual-Report-2017.PDF, p. 97.

Thus, an asset is created for these items. If the asset has a finite life, it is then amortised over the period during which the company believes the items will provide benefit. If it is not considered to have a finite life, an impairment test is carried out annually to determine if the value of the asset is to be written down. Note the amount of the write-down would reduce profit for the period:

- *brand names*, which can be registered to maintain exclusive use; for example, a brand name you may be familiar with, Coca-Cola, are listed as intangibles in the balance sheets of Coca-Cola Amatil Limited:

Coca-Cola Amatil Limited

Useful life details for their assets are as follows:

Brand names and trademarks	40 to 50 years
Software development and other assets	3 to 10 years

Coca-Cola Amatil Limited, *Annual Report 2017*.

- *franchises, distributorships* and other such rights to sell someone else's products in a certain geographical area, including McDonald's Restaurants, Boost Juice and KFC, where the local operator has paid for the right to use the name and sell the products.
- *deferred charges*, such as incorporation costs, financing costs, and other items that are really long-term prepaid expenses. One such example from an annual report of deferred charges is:

> **Crown Resorts Limited**
> **Borrowing costs**
> Borrowing costs directly associated with qualifying assets are capitalised, including any other associated costs directly attributable to the borrowing.
>
> Crown Resorts Limited, *Annual Report 2017* (http://www.crownresorts.com.au/CrownResorts/files/9d/9df41ad5-de12-465c-ad18-2925ad3533fa.pdf).

- *development costs* (including product development costs and mineral exploration costs), which are capitalised and later expensed at the time they earn revenue in the future. The Australian Accounting Standards allow development costs to be recognised as an intangible asset if the entity can demonstrate the following:
  - It is technically feasible to complete the intangible asset so that it will be available for use or sale.
  - The entity intends to complete the intangible asset and use or sell it.
  - The intangible asset will generate probable future economic benefits; that is, the entity can demonstrate that there is a market for the output or, if it is to be used internally, the usefulness of the intangible asset.
  - Adequate technical, financial and other resources are available to complete the development and to use or sell the intangible asset.
  - The costs can be measured reliably.

Conversely, the Australian Accounting Standards require organisations to charge all research costs to an expense account when they are incurred. Organisations are specifically prohibited from capitalising any expenditure associated with internally generated brands, mastheads, publishing titles, customer lists and similar items. Any costs associated with the development of these items must be expensed as incurred.

What are intangible assets worth?

Because such assets are intangible, their existence and value may be doubtful. Generally, the more clearly identifiable – that is, capable of being separated from the entity and sold, or arising from a contractual or legal right – and documented the assets are (especially via external evidence such as contracts and legal documents), the less difficulty they pose. However, even for clearly owned assets such as patents and franchises, there may be considerable doubt about their future economic value. For example, what is a McDonald's franchise worth? It depends on ever-changing consumer tastes, on whether a competitor does or doesn't open across the street, and on many other business and economic factors. Difficulties in valuing brand names and trademarks also abound.

For assets such as product development expenditures, there is often a real question as to whether they belong on the balance sheet at all. Capitalising expenditures on such items may appear to create better matching, and is usually seen to be proper by those making such expenditures, but this depends on whether they will ever return future value. Will the great new product sell? Will it produce revenues greater than costs? This is a difficult judgement to make, and many people have concluded that such assets should not appear on the balance sheet. These people favour conservatism in accounting and are concerned about manipulation or just feel that recognising such assets is not fair or appropriate. As noted above, Australian Accounting Standards require development expenditures to be expensed immediately and not capitalised, unless the costs meet the strict criteria noted earlier.

HOW'S YOUR UNDERSTANDING?

10F If a company capitalises development costs of $1 million, instead of expensing them in the current year, what is the impact on the financial statements (assume expected benefits for five years)?

Cost of intangibles

The cost of intangibles is determined in the same way as that of any other asset: purchase cost and other expenditures made prior to putting the asset into service (getting economic benefits from it). There may be substantial ambiguity about the cost of internally developed assets – such as development expenditures – because it may be difficult to separate what was spent to develop the asset from normal expenses incurred. As noted above, internally generated brands, mastheads, customer lists and similar items cannot be capitalised (made an asset), and are therefore expenses. For this reason, many companies decline to recognise (capitalise) such assets.

Amortisation or impairment of intangibles

The concept of depreciation also applies to intangible assets but here it is called amortisation. Under Australian Accounting Standards, an entity is required to assess whether a useful life is finite or indefinite. If finite, the intangible is amortised. Determining *legal* useful life may be fairly straightforward for assets that are supported by contracts or other documents – such as leases that have a specified term (as do most franchises) and patents that are good for a specific number of years – but whether this is also the *economic* useful life is harder to say. When an entity determines that an intangible asset has an indefinite useful life, then the asset is not subject to amortisation. However, the entity would need to test annually for impairment, by comparing the asset's carrying amount with its recoverable amount. Any excess of the carrying amount over its recoverable amount would need to be immediately recognised as an impairment in the income statement; that is, it reduces net profit as well as the amount of the asset recorded in the balance sheet.

As an example of both finite and infinite lives of intangibles, consider the following extracts on intangibles from the 2017 financial statements of Coca-Cola Amatil Limited.

> Indefinite life intangible assets, except for goodwill, acquired through business acquisition transactions are recognised initially at fair value at the date of acquisition which is subsequently deemed to be cost.
>
> Definite life intangible assets are accounted for at cost. Assets acquired in a business acquisition are recognised initially at fair value at the date of acquisition, which is subsequently deemed to be cost. Following initial acquisition, intangible assets are amortised on a straight line basis over their useful lives and tested for impairment when there is any indication of impairment.
>
> Coca-Cola Amatil Limited, *Annual Report 2017*.

The largest intangible asset for Harvey Norman Holdings Limited is computer software, which is included in the balance sheet at $71.354 million. They note that:

> Computer software assets are carried at cost less accumulated amortisation and accumulated impairment losses. The intangible assets have been assessed as having a finite life and is amortised using the straight-line method over a period of no greater than nine and a half (9.5) years. If impairment indicators are present, the recoverable amount is estimated and an impairment loss is recognised to the extent that the recoverable amount is lower than the carrying amount.
>
> Source: Harvey Norman Holdings Limited, *Annual Report 2017*, p. 108.

10.9 Goodwill

LO9 Goodwill arises when more is paid for a group of assets, such as a whole business, than the assets seem to be worth individually. The rationale for paying the additional amount may be based on such factors as how the business is organised or the number of customers it has. As a result, there is an asset called goodwill that keeps the accounts in balance. Here is an example. Great Limited buys all the business assets of Small for $800 000 cash. The best estimate of the fair market values of those assets are:

- receivables, $60 000
- inventories, $110 000
- land, $100 000
- building, $260 000
- equipment, $130 000
- total, $660 000
- no liabilities are assumed by Great Limited.

Great Limited would record the purchase as follows:

		$	$
DR	Accounts receivable	60 000	
DR	Inventories	110 000	
DR	Land	100 000	
DR	Buildings	260 000	
DR	Equipment	130 000	
CR	Cash		800 000

No problem. Except that the entry doesn't balance! So a new account called 'goodwill' is created and debited with $140 000, which is the $800 000 cost of the whole minus $660 000: the sum of the fair values of the parts. This keeps the books in balance, but creates an account for which the value and meaning are unclear. If goodwill represents unrecorded and unidentifiable assets, what are they? If it represents a good location, good managers or 'synergy' with the operations of Great Limited, what are these things really worth? How much future value do they have? How long will this value last?

Purchased goodwill is measured as the excess of the cost of acquisition of another entity over the fair value of the identifiable net assets (net assets = assets – liabilities) acquired.

For accounting purposes, it is important that you understand the difference between externally and internally generated goodwill. The situation discussed in the previous paragraph refers to externally generated goodwill, which is recognised by the accounting system. This is a transaction, supported by documentation, that shows how much was paid. Some judgements then need to be made about the fair value of the assets, with the remainder being goodwill. However, if an organisation builds up the business by such methods as better management and improving the friendliness of staff, this would be called internally generated goodwill, which would not be included in the financial statements. While someone else may now be willing to pay more for the business, this extra value is not represented in the accounts. There are a number of reasons for this, but at this stage note that difficulty in measuring this amount is one reason why it is not included. Internally developed goodwill is never capitalised; for example, expenditures on office parties that create happy employees are expensed, not capitalised.

Following the acquisition of goodwill, rather than amortising it over a deemed useful life (as was previously the case in Australia), an entity will test it for impairment on an annual basis, or more frequently, if events or changes in circumstances indicate that the goodwill's carrying value has decreased below its recoverable amount.

Consider the following description from Coca-Cola Amatil Limited's 2017 financial statements on goodwill.

Goodwill is the excess of the cost of a business acquisition over the fair value of net assets acquired. Goodwill is not amortised but is tested annually for impairment.

Coca-Cola Amatil Limited, *Annual Report 2017*.

10.10 Finance leases

LO10

Leases are rental agreements in which one individual (a lessee) pays, to the owner of a property (lessor), a certain amount in return for the right to use that property over a predetermined period. The property could be a building, a motor vehicle, equipment, aircraft, computers, or furniture and fittings. Before the issuing of accounting standards on leases, there was some concern that companies were using leases to avoid putting assets and liabilities on the balance sheet. For example, instead of borrowing $100 000 from a bank to buy a new piece of equipment (resulting in assets and liabilities both increasing by $100 000), some companies were using an alternative form of financing, namely leases, and avoiding the need to include the asset and related liability on the balance sheet. As a result, the Australian Accounting Standards defined two types of leases: finance leases (called capital leases in the United States) and operating leases. Leases are classified as finance leases when all the risks and benefits incidental to ownership are substantially transferred to the lessee.

Finance leases are included on the balance sheet as follows:

- The cost is the present value of the future lease payments using an appropriate interest rate usually found in the lease agreement (discussed in the appendix to Chapter 11).
- At the same time, the present value of those payments is recorded as a liability.

Therefore, the journal entry to put the leases on the balance sheet is:

DR	Finance lease asset	XXXX	
CR	Finance lease obligations liability		XXXX

After that:

1 The leased asset is amortised, just as the owned assets are depreciated, following a policy that is consistent with that used for owned assets but also taking into account the terms of the lease.

2 The liability is reduced as payments are made on the lease. Each payment is divided into principal and interest portions, so that only the principal portion is deducted from the liability and the rest is considered interest expense. This maintains the liability at the present value of the remaining lease payments.

3 Therefore, the expenses for using the leased asset are amortisation and interest. Such amounts are usually combined with other amortisation and interest expenses, because the intent is to represent the economic situation fairly.

4 Various particulars of significant capital leases are usually disclosed in the notes to the financial statements so that the readers of the statements may judge the effects of such capitalisation. Separate disclosure is usual for the lease obligations liability, the terms of the lease, and related amortisation and interest expenses.

The result of these procedures is that the leased asset is treated essentially as if it were owned. Accrual accounting recognises the economic value of the asset and disregards the legalities of who owns it.

If the lease does not result in the economic equivalence of ownership (e.g. if it is really a rental situation where the owner continues to do the repairs and maintenance, generally controls the asset and regains use of the asset after a certain period), the lease is termed an operating lease. For such leases, there is no asset or lease obligation liability recognised, and the lease payments are just expensed as rent expense. If the operating lease is significant to the company, some of its particulars may be disclosed in the notes to the financial statements.

10.11 Managers and noncurrent assets

LO11 Managers need to make many judgements related to noncurrent assets. Examples include:

- What should be included in the cost of an asset, and over what period should it be depreciated?
- When should assets be revalued, and who should do the revaluation?
- Should development costs be capitalised or expensed?
- Over what period should intangibles be amortised, or are they subject to an impairment test?
- What value should be put on brand names, trademarks and so on?

All the above decisions will affect the valuation of assets, which in turn affects certain performance measures, such as return on assets (ROA), for which managers are responsible. All of the above judgements (except the upward revaluation of assets) will affect the organisation's profit figure, which is again a key indicator of management performance.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Depreciation, calculations, entries and effects

At the beginning of 2018, Garrison Ltd acquired machinery that cost $100 000, had a useful life of 10 years and zero scrap value. During 2018 and 2019 the company depreciated this machinery using the straight-line method. Assume a tax rate of 40 per cent.

1 Calculate the depreciation expense Garrison has recognised for 2018 and 2019 and write a journal entry to record either year's amount.
2 Calculate the depreciation expense Garrison would have recorded, had it been using the reducing balance method for 2018 and 2019 (assume a depreciation rate of 20 per cent).
3 Calculate the effects of changing from straight-line to reducing balance on the following:
   a the balance sheet at the end of 2018
   b the income statement for 2019
   c the balance sheet at the end of 2019.

PRACTICE PROBLEM B

Determining the cost of noncurrent assets

On 1 January 2019, Combo Ltd purchased a factory (and the land on which it stood), together with the machinery in it, for $700 000 in total. The independently determined appraisal values were:

	$
Land	320 000
Building	180 000
Machinery	200 000

In January, a portion of the building was demolished, at a cost of $1200, to allow for the extension of the building to house new machinery. Two hundred dollars was received for materials residual from the demolition. However, in the course of the demolition, existing machinery was damaged, requiring expenditure of $400 on repairs. This amount was not recoverable from the demolition company. In February and March the extensions were built. Construction costs were $40 000, architect's fees were $4000 and legal fees were $500. In April, new machinery was purchased for $50 000 (list price). Sales tax of 4 per cent was paid, as were freight and installation costs of $750. In addition, $500 was spent on making changes to an existing machine to extend its useful life.

1 If a balance sheet was to be prepared at the end of April 2019, what amounts would be shown for the cost of land, buildings and machinery? Prepare separate schedules, listing individual components of the cost of land, buildings and machinery, to support your answer.
2 What is the effect on shareholders' equity of the above transactions (if any), assuming all payments were made in cash? Briefly explain your answer.

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 What is included in the cost of an asset?
2 What is the purpose of depreciation?
3 'Without depreciation, the asset values in the balance sheet would not be appropriate.' Discuss.
4 What judgements need to be made by managers and accountants in calculating depreciation?
5 What different methods of depreciation are available? How do the methods affect profit for the year?
6 How do gains and losses on disposal affect the financial statements?
7 What is the purpose of an asset revaluation?
8 What is the impact on the profit for the year if a parcel of land is revalued upwards?
9 What is recoverable amount?
10 List five different types of intangibles.
11 What is goodwill? How is it valued in the balance sheet?
12 Provide three examples of deferred expenditure. Where would they appear in the financial statements?
13 What determines whether development costs are capitalised or expensed?
14 Why record depreciation expense by debiting the expense and crediting accumulated depreciation? Why not just credit the asset cost so that the balance sheet shows just the remaining undepreciated cost? (After all, the latter method is used for prepaid expenses.)
15 Under what circumstances would the following depreciation policies be appropriate?
   a straight-line (even periodic expenses over the asset's life)
   b reducing balance (declining periodic expenses over the asset's life)
   c units-of-production (variable periodic expenses depending on the use of the asset)
16 Briefly explain what is meant by the statement: 'Under historic cost accounting, depreciation is a process of allocation.' Include in your answer some reference to the key assumptions that support the view of depreciation as an allocation process, and a brief explanation as to why the residual value of depreciable noncurrent assets is not 'depreciated'.
17 Why is capitalising costs such as intangible assets a reasonable idea? Why is it not such a good idea?
18 Explain clearly why, and how, capitalising the costs of a development project as a deferred costs asset affects the income statement and the balance sheet.
19 If an asset is leased, it is not owned. How can accounting standards that require the creation of a balance sheet account for these leased assets be justified?
20 If a lease is treated as a finance lease rather than an operating lease, what effects does that have on the balance sheet and the income statement?
21 'This depreciation business appears to involve a lot of guesswork. To calculate the annual charge you guess the life of the asset, its scrap value and expected pattern of reduction in value. You tell us that there is a choice of methods available and that no method can be claimed to be correct in particular circumstances. You admit that the rate of depreciation charged for taxation purposes differs from the rate used in the accounting records. It seems to me that the company will run into difficulties with the taxation department.' Discuss.

PROBLEMS

PROBLEM 10.1

Classify expenditure as assets or expenses

Anne and Tony own a guesthouse and spent the following:

1. Purchased a new air conditioning unit ($12 000) and had it installed ($4000).
2. Spent $300 000 constructing an extension to the guesthouse.
3. Spent $15 000 painting the extension.
4. Spent $1500 demolishing an old building that was on the site of the extension.
5. Spent $18 000 painting the old section of the guesthouse.
6. Spent $45 000 replacing carpets with floorboards in the original section of the guesthouse.
7. Spent $13 000 replacing existing carpets in the original section of the guesthouse.
8. Spent $900 on new curtains (the old ones were destroyed by a guest).

For each item, state whether it is an asset or an expense. If an asset, state the amount it would be recorded at.

PROBLEM 10.2

Cost of an asset

On 1 July 2019, Manly Ltd purchased some equipment for use in its operations. The useful life of the equipment is estimated to be 10 years. The company had made the following expenditures:

a. purchase price of the machine (as per invoice), $1 000 000
b. freight expense paid for by the buyer (as per the sales agreement), $17 000
c. installation cost, paid in cash, $23 000.

Required:

1. What is the total cost of the asset?
2. What is the depreciation expense for year 1, assuming straight-line depreciation is used?
3. What is the balance of accumulated depreciation at 30 June 2021?

PROBLEM 10.3

Classify expenditure as assets or expenses

Classify the following expenditures as an asset or an expense, and state your reasons why.

1. A Ltd bought three new cars for its sales team, for a cost of $120 000. Two cars were air-conditioned at a cost of $8000, and a mobile phone was installed in one of the cars for $1000.
2. B Ltd bought a new point-of-sale inventory system for $150 000 and trained two employees to use it, at a cost of $15 000. Two months later, both employees left, and an additional $10 000 was spent training a replacement.
3. C Ltd has spent $15 000 developing a new product called Davo Plus. Development is not yet complete. At a recent board meeting, directors voted to continue development.
4. D Ltd paid for an equipment overhaul that is estimated to have increased the productive capacity of the equipment by 15 per cent, but it has not increased its useful life.

PROBLEM 10.4

Cost of an asset, depreciation

The following events took place at Freddie Choo Painting during 2019:

a. On 1 January, Freddie bought a van for $30 000. He had a tool chest and side racks for ladders installed for a total cost of $5000. He paid an additional $1000 to a signwriter to paint his name along the side of the van. The truck is expected to last for four years and then be sold for $800. Freddie uses straight-line depreciation.
b. On 1 April, Freddie purchased 10 cases of paint rollers at auction for $3200 (market value, $3800). Freddie will use all the paint rollers this year and next year (50 per cent each year). The paint rollers have no salvage value at the end of this time.
c. On 1 February, Freddie paid Sydney Council $4500 for a three-year licence (1 February 2019 to 31 January 2022) to operate his business.

Required:

1 What cost would be assigned to:
  a the van?
  b the paint rollers?
2 Determine the amount of depreciation, or other expense, to be recorded for each asset for the year ended 31 December 2019.
3 Where will these assets appear on Freddie's balance sheet as at 31 December 2019?

PROBLEM 10.5

Depreciation calculations

Lawnmowing Limited has purchased a group of new lawnmowers for $20 000. The owner expects the mowers to last five years and to have negligible resale value at that point. The business plan projects cutting 5000 lawns over the five years, with per-year projections of 500, 1000, 1200, 1800 and 500 lawns over the five years.

1 Calculate the accumulated depreciation balance at the end of the second year using each of the following depreciation bases:
  a straight-line
  b reducing balance (25 per cent rate)
  c units-of-production.
2 Based on your calculations, which depreciation basis would produce the highest retained profits at the end of the second year?
3 If the 25 per cent reducing balance method is used, accumulated depreciation will be $15 254 at the end of the fifth year. Suppose that, on the first day of the sixth year, all the lawnmowers are sold as junk for $100 cash in total. Ignoring income taxes, calculate the loss on sale that would be recorded that day.

PROBLEM 10.6

Depreciation methods and selection of method

Dombey & Son acquired a new machine on 1 January 2016 at a cost of $135 000. Freight and installation charges amounted to $25 000. The machine was expected to have a useful life of four years and a residual value at the end of that period of $10 000. During its useful life, it was expected to be operated for 25 000 hours.

1 Prepare a table showing the annual depreciation expense relating to the machine for each of the years ending 31 December 2016, 2017, 2018 and 2019 using:
  a the straight-line method
  b the reducing balance method (use a rate of 50 per cent).
2 Assuming that Dombey & Son had used the units-of-production method, and that the machine had been operated for 7000 hours during the year ended 31 December 2019, show the journal entry to record the depreciation expense for that year.
3 How should Dombey & Son decide which depreciation method to use? Will the choice of depreciation method have any effect on the reported profit and financial position of Dombey & Son over the life of the asset?

PROBLEM 10.7

Depreciation calculations and selection of method

An item of equipment was purchased on 1 July 2015 at a cost of $625 000. It was estimated to have a useful life of four years and a salvage value at the end of that period of $25 000.

1 Calculate the depreciation expense that would be charged with respect to this equipment in each of the years ending 30 June 2016, 2017, 2018 and 2019 using:
  a the straight-line method
  b the reducing balance method (use 40 per cent rate).
2 Outline the main factors to be considered in selecting an appropriate depreciation method.

PROBLEM 10.8

Depreciation calculations, entries, effects and choice

At the beginning of 2015, SD Corporation acquired machinery that cost $100 000 and had an anticipated useful life of 10 years. SD Corporation depreciated this machinery for 2015 and 2016, using the straight-line method. During 2017, it decided to change to the reducing balance method of depreciation.

1 Prepare the journal entry to record depreciation expense for 2016, using the straight-line method.
2 Prepare the journal entry to record depreciation expense for 2016 using the reducing balance method, at a rate of 20 per cent.
3 Show the effects of changing from the straight-line method to the 20 per cent reducing balance method on:
   a the net profit before tax for 2017
   b the total assets for 2017.
4 In what circumstances is the use of reducing balance depreciation more appropriate than using the straight-line method?

PROBLEM 10.9

Depreciation and gain/loss calculations and effects

Fred's Freighthauling Ltd has a small fleet of delivery trucks. Each one is depreciated on the reducing balance method (rate 20 per cent; half of that in the year of acquisition and in the year of disposal) with no salvage value. Truck 4 was purchased on 1 July 2016 for $46 000, and sold three years later, on 30 June 2019, for $15 000. The company's financial year-end is 31 December.

1 What was the total depreciation on truck 4 to the date of its disposal?
2 Based on your answer to question 1, write a journal entry to record the disposal of truck 4.
3 Redo questions 1 and 2, assuming the company uses straight-line depreciation at 15 per cent per year and an estimated salvage value of $6000.
4 Calculate the different effects of the two depreciation methods on the company's 2019 profit. Ignore income tax effects.
5 What implications (if any) would the use of different depreciation methods by the company have for potential creditors or investors?
6 The use of different depreciation methods could affect financial performance comparisons between financial years for a particular company, and between different companies for the same financial year. How are these differences mitigated?

PROBLEM 10.10

T-accounts for depreciation

The following information is taken from the accounts of Equipment Ltd.

	$000
Equipment, 1 July 2018	2 500
Equipment, 30 June 2019	3 900
Accumulated depreciation – equipment, 1 July 2018	600
Accumulated depreciation – equipment, 30 June 2019	400
Equipment sold during the year	
– cost price	900
– accumulated depreciation	250
– proceeds	700

What was the depreciation expense for equipment for the year?

PROBLEM 10.11

Depreciation from an annual report

Below is a note from Eastwood Ltd's recent annual report:

1 Summary of significant accounting policies on noncurrent assets

Property and equipment – Property and equipment is recorded at cost and depreciation is calculated on a straight-line basis. Buildings and improvements have an expected useful life of 15–30 years, while the expected useful life of equipment is 4–15 years and furniture and fittings is 5–10 years. For 2019 and 2018, the assets included in property and equipment are as follows:

	2019 $000	2018 $000
Land	59 778	57 850
Buildings and improvements	150 172	149 172
Equipment, furniture and fittings	27 850	27 706
Leasehold improvements	14 695	16 699
	252 495	251 427
Less: Accumulated depreciation	(55 383)	(50 000)
	197 112	201 427

1. If Eastwood Ltd did not sell any property and equipment in 2019, what depreciation expense would have been recorded for 2019?
2. Assume that Eastwood Ltd did not record its depreciation expense in 2019. What is the effect of this error on the following?
   a. profit
   b. current assets
   c. noncurrent assets
3. What was the cost of the land purchased?

PROBLEM 10.12

Various depreciation methods

On 1 January 2019, Yip Ltd acquired additional equipment at a cost of $120 000, less a trade discount of 25 per cent. The terms of payment were 2/10, n/30. Payment was made on 20 January 2019. Freight charges were $7500 and installation and testing cost $2500.

The equipment was expected to have a useful life of five years and a salvage value of $3125. During its life, the equipment was expected to produce 775 000 units of output. During the year ended 30 June 2019, the equipment was used to produce 70 000 units.

Calculate the depreciation expense to be charged in the accounts of Yip Ltd, with respect to this new equipment for the financial year ended 30 June 2019, using:

1. the reducing balance method (assuming a rate of 50 per cent)
2. the straight-line method
3. the units-of-production method.

PROBLEM 10.13

Comparison of methods of depreciation

Alley Limited recently purchased certain manufacturing equipment for $810 000. The equipment is expected to have a useful life of four years and a salvage value of $10 000. The manager of Alley Limited wishes to know the effect that various depreciation methods will have on the reported profit of the company and asks you to prepare a schedule comparing the straight-line and the reducing balance methods of depreciation (use 0.6667 for reducing balance).

1 Calculate the annual depreciation expense and end-of-year carrying amount of the equipment for each year of its estimated useful life. Show your workings.
2 What are the main factors that are likely to influence the useful life of a depreciable asset? What factors are likely to influence the manager in selecting a depreciation method?

PROBLEM 10.14

Comparison of depreciation methods

Part A

Waking Hours Ltd owns a nightclub in the centre of Sydney. In a major refurbishment, it purchased a new sound system and a new lighting system on 1 April 2019.

The sound system cost $27 000 to purchase and $3500 to install. The lighting system cost $44 000.

The sound system has a useful life of five years and the lighting system, four years. Both are depreciated on a straight-line basis, assuming no residual value.

1 What is the cost and the written-down value for the assets discussed above as at 31 December 2019?
2 Would Waking Hours' profit be higher or lower for the year ended 31 December 2019 if it had adopted the reducing balance method of depreciation (use 150 per cent of straight-line rate)? Use the same data in the question above to calculate your answer.

Part B

This question continues the scenario outlined above.

On 1 May 2019, it was found that the lighting system was no longer flashing ultraviolet rays in time with the music (as it should). It cost $700 to have this fixed. On 1 October 2019, $5000 was spent to give the sound system a heavier bass beat.

What is the appropriate accounting treatment for the events that occurred on 1 May 2019 and 1 October 2019?

PROBLEM 10.15

Journal entry for asset disposal

Extract from balance sheets at 30 June:

	2019 $	2018 $
Equipment	980 000	821 000
Less: Accumulated depreciation	(400 000)	(320 000)
Equipment net	480 000	501 000

Additional information:

(i) Depreciation expense for the year is $130 000.
(ii) Cash proceeds for disposal of equipment during the year amounted to $110 000, resulting in a loss on sale of $20 000.

Prepare the journal entry for the disposal of equipment.

PROBLEM 10.16

Asset disposal

Extract from balance sheets at 30 June:

	2020 $	2019 $
Equipment	820 000	700 000
Less: Accumulated depreciation	(400 000)	(340 000)
Equipment net	420 000	360 000

Additional information:

(i) Purchased additional equipment for $200 000.

(ii) Proceeds from the sale of equipment was $60 000 with a gain on sale of $20 000.

Prepare the journal entry for the sale of equipment.

PROBLEM 10.17

Asset disposal

Quick Express, a leading courier company, sold a small delivery truck that had been used in the business for five years. The records of the company reflected the following:

Delivery truck cost	$47 000
Accumulated depreciation	$39 000

What is the journal entry for the disposal of the truck, assuming that the truck sold for:

1 $8000 cash?
2 $9000 cash?
3 $7100 cash?

PROBLEM 10.18

Repairs versus capitalising

Gibbs Ltd operates a manufacturing facility to produce its key products. On 1 July 2019, the balance of an equipment account was as follows:

Manufacturing equipment	$120 000
Accumulated depreciation	$ 78 000

During the 2020 financial year, Gibbs Ltd made the following expenditures:

Equipment maintenance and repairs	$ 1 000
Major equipment upgrade to improve efficiency	$35 000

The equipment has an expected useful life of 20 years, and residual value is $7200. Gibbs Ltd depreciates equipment on a straight-line basis.

1 What is the journal entry that was made on 30 June 2018 for depreciation on manufacturing equipment?
2 Indicate the effects of the two expenditures during 2020 on assets, liabilities and shareholders' equity.
3 Give the journal entries to record the two expenditures during the 2020 financial year.

PROBLEM 10.19

Correcting errors relating to noncurrent assets

The following errors were discovered in the books of the Deep Appreciation Company during the current year, before the books were closed as at 31 December.

1 Depreciation of $2140 relating to machinery was incorrectly credited to the accumulated depreciation – buildings account.
2 A machine with a cost of $22 500 and accumulated depreciation to the date of sale of $16 000 was sold for $8000. The sale was recorded by debiting the cash at bank account and crediting the machinery account for $8000.
3 The cost of delivery equipment purchased on 1 July for $7900 was debited to the purchases account. The equipment has a useful life of four years and estimated residual value of $900. Straight-line depreciation is used for delivery equipment.
4 The cost of installing lighting in the company car park ($12 000) was charged to the maintenance expense account on 4 January, the date of purchase. The lights have a useful life of eight years and no residual value. Assume straight-line depreciation.

Prepare general journal entries to correct the errors (if there are any).

PROBLEM 10.20

Correction of errors and revaluation of noncurrent assets

During the audit of the accounts of Hogarth Ltd for the year ended 31 December 2019, it was discovered that the following errors had been made during the year:

1. Store fixtures that had cost $12 000 were sold for $1200 cash. The accumulated depreciation at the date of sale was $8500. The sale was recorded by a debit to cash at bank and a credit to store fixtures for $1200.
2. On 1 July 2019, a fence was erected around the company's office building at a cost of $9000. This was charged to maintenance expense. The fence is expected to have a useful life of 10 years and no residual value. Assume straight-line depreciation.
3. A truck was purchased on 1 January 2019 at a cost of $10 000. This was debited to the purchases account. The truck is expected to have a useful life of four years and a residual value of $1296. It is to be depreciated by the reducing balance method (use 40 per cent).
4. Another block of land, which was purchased for $20 000 in 2005 and revalued at $25 000 during 2017, was found to have a fair value of only $15 000 at 31 December 2019. No entry has been made yet to record the fall in the value of this land.

Prepare general journal entries to correct the above errors, together with any necessary adjusting entries as at 31 December 2019.

PROBLEM 10.21

Revaluation of noncurrent assets

Eaglehawk Ltd had the following noncurrent asset on its balance sheet on 30 June 2021. The company adopts a policy of depreciating all relevant items on a straight-line basis over a 10-year period with no residual value.

	$
Building	200 000
Less: Accumulated depreciation	(50 000)
	150 000

1. What is the carrying amount of the building on 1 January 2022?
2. On 1 January 2022, the directors of Eaglehawk decide to revalue the building to $400 000 to reflect its market value. Prepare the necessary journal entries.

PROBLEM 10.22

Revaluation of noncurrent assets

Kingfisher Ltd had the following noncurrent assets on its balance sheet at 30 June 2020:

	$	$
Land		320 000
Plant and equipment	150 000	
Less: Accumulated depreciation	(30 000)	120 000
		440 000

On 1 July 2020, the land was revalued to $300 000, and the plant and equipment was revalued to $140 000. One year later, on 1 July 2021, the recoverable amount of the plant and equipment was determined to be $100 000, and it was revalued accordingly. Depreciation for all relevant items is on a straight-line basis, over a 10-year period with no residual value.

1. Prepare journal entries to record the revaluation of the land on 1 July 2020.
2. Prepare journal entries to record the revaluation of the plant and equipment on 1 July 2020.
3. Prepare journal entries to record the revaluation of the plant and equipment on 1 July 2021.
4. Assuming that there are no acquisitions or disposals of noncurrent assets, construct the noncurrent assets section of Kingfisher's balance sheet as at 30 June 2022.

PROBLEM 10.23

Impairment

An airline's property, plant and equipment account includes a plane that cost $10 million and has accumulated depreciation of $6 million. The plane can be sold for $3 million. The present value of future cash flow is $3.5 million.

1 Calculate:
   a book value
   b recoverable amount
   c fair value
   d value in use.
2 What is the amount of impairment?

PROBLEM 10.24

Amortisation and asset impairment

Higgins Ltd has four intangible assets on its financial statements. Management is interested in the amortisation of each of these assets. Below is information about each of the intangible assets:

a Patent: On 1 July 2019, Higgins Ltd purchased a patent at a cost of $60 000 cash. The estimated useful life of the patent is 15 years.
b Copyright: On 1 July 2019, Higgins Ltd purchased a copyright for $36 600 cash. The estimated useful life of the copyright is 12 years.
c Licence: On 1 July 2019, Higgins Ltd obtained a special licence from the NSW Government for $35 000 cash. This licence allows the company to provide a special service for a period of seven years.
d Goodwill: On 1 July 2019, Higgins Ltd acquired another company, Target Ltd, for a cash consideration of $1 000 000. The acquisition price includes goodwill of $90 000, which is expected have an indefinite life.

Required:

1 What amount of amortisation should be recorded for each of the above on 30 June 2020?
2 For each of the above, what is the amount that will be recorded on the balance sheet on 30 June 2021?
3 On 1 July 2020, Higgins Ltd finds that demand for the copyrighted product is lower than expected. It believes fair value of the copyright to be $17 500. What amount of impairment, if any, should be recorded?

PROBLEM 10.25

Calculate any goodwill on a business purchase

Foofaraw Ltd paid $200 000 for the land, buildings, inventories and accounts payable of another business that will become a branch. The assets (after deducting the accounts payable of $50 000) had an aggregate fair market value of $187 000.

1 What (if anything) is the resulting asset on Foofaraw's balance sheet?
2 If Foofaraw had paid $185 000, what would be your answer to question 1?

PROBLEM 10.26

Journal entry for a business acquisition

Big Ideas Ltd decided to buy parts of a competitor's business, which was cutting back operations.

For a price of $4.2 million ($1 million down payment and the rest in four equal annual instalments, plus interest at 12 per cent per annum), Big Ideas got inventory it valued at $280 000, land it valued at $1.5 million, a retail store building it valued at $1.8 million, furniture and equipment it valued at $470 000 and some dealership rights it valued at $40 000. Big Ideas also agreed to pay a bank loan of $130 000 secured by the inventory.

Write a journal entry to record Big Ideas Ltd's purchase.

CASES

CASE 10A Woolworths Limited

Refer to the extracts of the 2017 annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 The company depreciates 'plant and equipment'. Provide examples of plant and equipment.
2 Are buildings depreciated?
3 What is the total depreciation and amortisation for the year?
4 How much did the accumulated depreciation and accumulated amortisation accounts increase by?
5 Why aren't the answers to questions 3 and 4 the same?
6 What method of cost allocation is used by the company to determine depreciation?
7 Did Woolworths dispose of (e.g. sell) any property, plant and equipment during the year? If so, did it make a profit or loss on these sales? How would this profit or loss be calculated?
8 Does the company revalue upwards any property, plant and equipment? If so, how frequently?
9 What intangibles does the company have? How are they valued? Over what period are they amortised? Where are they located in the financial statements?
10 Companies can have both operating and finance leases. When does Woolworths disclose information on operating leases?
11 What does Woolworths say about recoverable amount?
12 What does Woolworths say about impairment of tangible assets?

CASE 10B Accounting policy for noncurrent assets

Shown below is the accounting policy for Rorab Mining for property, plant and equipment.

Property, plant and equipment

Owned assets: Items of property, plant and equipment are stated at cost or deemed cost less accumulated depreciation and impairment losses. The cost of self-constructed assets includes the cost of materials, direct labour and an appropriate proportion of production overheads. Assessment of impairment loss is made in accordance with the impairment policy.

Leased plant and equipment: Leases under which the company assumes substantially all the risk and rewards of ownership are classified as finance leases. Other leases are classified as operating leases. Finance leases are capitalised. A lease asset and a lease liability equal to the present value of the minimum lease payments are recorded at the inception of the lease. Lease liabilities are reduced by repayments of principal. The interest components of the lease payments are expensed. Contingent rentals are expensed as incurred. Operating leases are not capitalised and lease costs are expensed.

Depreciation: Items of property, plant and equipment, including buildings and leasehold property but excluding freehold land, are depreciated using the straight-line method over their expected useful lives. Assets are depreciated from the date of acquisition or, in respect of internally constructed assets, from the time an asset is completed and held ready for use. Mining assets are amortised over the expected life of the identified resources using the units of production method.

1 Show the effect of acquisition, disposal, leasing and depreciation on the accounting equation.
2 What depreciation methods are used by the company? What determines which method gives the larger depreciation in a year? Would the total depreciation over the life of the asset differ between methods?
3 What judgements do accountants need to make in calculating depreciation, and how do these judgements impact profit?
4 Provide three actions by management that could move profit from one accounting period to another.

CASE 10C Intangibles

1 The accounting policy disclosures for Fairfax Media in 2017 refer to a range of intangibles. Explain what each of the following would represent for Fairfax Media:
   a mastheads
   b tradenames
   c websites
   d customer relationships
   e goodwill.
2 Explain why radio licences, websites, customer relationships and computer software are treated as assets.
3 What is an alternative accounting treatment to capitalising software costs? What impact would a change to this other method have on the financial statements?
4 How would the period of amortisation be determined?
5 What impact would an increase in the number of years over which an intangible asset is amortised (e.g. from two years to four years) have on the financial statements?

CASE 10D Asset valuations

Large airlines, like Qantas, invest billions of dollars in aircraft which are recorded as assets on their balance sheets.

The profitability of airlines is closely linked to fuel prices, so an increase in fuel prices (or a change in exchange rates) will likely have a negative impact on profit. In a situation like this, the value of the aircraft may need to be written down to reflect lower in-use valuations. Depreciation of aircraft may also be adjusted to reflect lower valuations.

Another increasingly important element of the business of airlines is their loyalty schemes which are also recorded as assets on the balance sheet and are subject to the same rules as other types of assets.

1 What is meant by in-use valuations? How does a profit outlook challenge in-use valuations?
2 What is the impact on the financial statements of hastening depreciation on aircraft or a massive write-down in the financial statements?
3 Why was the loyalty scheme considered an asset? What would be the impact of writing down the value of a loyalty scheme?

CASE 10E Judgements in asset valuations

Consider the following extract from the financial statements of a large whitegoods retailer:

Property, plant and equipment

Plant and equipment assets are stated at historical cost less accumulated depreciation and any accumulated impairment losses. Land and buildings are measured at fair value less accumulated depreciation on buildings and leasehold land and any impairment losses recognised at the date of the revaluation. Valuations are performed frequently to ensure that the fair value of a revalued asset does not differ materially from its carrying amount.

Depreciation is calculated on a straight-line basis over the estimated useful life of the asset as follows:

- Land – not depreciated
- Leasehold land – lease term
- Buildings under construction – not depreciated
- Buildings – 20 to 40 years
- Owned plant and equipment – 3 to 20 years
- Plant and equipment under finance lease – 1 to 10 years.

The assets' residual values, useful lives and amortisation methods are reviewed, and adjusted if appropriate, at each financial year end.

1 List any judgements that need to be made by management that will have an effect on the income statement and on the balance sheet of the retailer.
2 Why is it important that these judgements be disclosed to users of financial statements?

HOW'S YOUR UNDERSTANDING SOLUTIONS

10A All of the above costs would be included except 'an estimate of costs to maintain the factory over the next five years'. This is a future cost that would be included in expenses in each of the five years.

10B (i) $300 000

(ii) $200 000

(iii)

Equipment	500 000
less: Accumulated depreciation	300 000
Equipment (net)	200 000

10C Depreciation expense is used in order to allocate the cost of long-lived assets over their useful lives. The most appropriate method would match the depreciation expense for each period with the presumed economic benefit obtained during that period.

10D

		$	$
DR	Cash	5 000	
DR	Accumulated depreciation	25 000	
DR	Loss on sale	10 000	
CR	Equipment		40 000

10E (i) Cost minus accumulated depreciation.

(ii) Refers to whichever is higher: an asset's fair value less the costs to sell it or an asset's value in use.

(iii) The amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's-length transaction less costs.

(iv) The present value of future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life.

10F If expensed, the $1 million goes to expense in Year 1 and there is no balance sheet effect; if capitalised, $1 million goes to the balance sheet and then each year $200 000 goes to amortisation expense (income statement) and the asset in the balance sheet is decreased by $200 000 (accumulated amortisation).

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1 Depreciation would be 10 per cent of cost per year: $10 000 in 2018 and 2019. The entry would debit depreciation expense and credit accumulated depreciation with the $10 000.
2 Depreciation for 2018 would be 20 per cent of $100 000 = $20 000
Depreciation for 2019 would be 20 per cent of ($100 000 − $20 000) = $16 000
3 a Accumulated depreciation increases by $10 000.
Retained profits decreases by $6000 ($10 000 − $4000 tax).
b Depreciation expense under SL = $10 000
Depreciation expense under reducing balance = ($100 000 − $20 000) × 20% = $16 000. Therefore difference is $6000 before tax and $3600 after tax.
c Accumulated depreciation increases by $16 000; retained profits decreases by $9600.

PRACTICE PROBLEM B

1 Schedules:

	$
Land	
At cost	320 000
Building	
At cost	180 000
Demolition	1 200
Construction costs	40 000
Architect's fees	4 000
Legal fees	500
	225 700
Less salvage	(200)
	225 500
Machinery	
At cost	200 000
New machinery	50 000
Sales tax (4%)	2 000
Freight and installation	750
Improvement to existing machine	500
	253 250

2 Shareholders' equity would decline by $400, being repairs to machinery damaged during demolition.

COURSEMATE EXPRESS

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Liabilities 11

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

- **LO1** define a liability and outline the essential characteristics of liabilities (11.1)
- **LO2** explain the basic measurement principles for liabilities (11.2)
- **LO3** outline the financial statement presentation for liabilities (11.3)
- **LO4** provide accounting entries for current liabilities including accounts payable, notes payable, short-term accruals and employee deductions (11.4)
- **LO5** understand the alternatives for company financing and how to account for them (11.5 and 11.6)
- **LO6** explain the different types of tax liabilities (11.7)
- **LO7** explain how a provision differs from other types of liabilities, and when it can be recognised (11.8)
- **LO8** identify and explain the purpose of contingent liabilities (11.9)
- **LO9** explain off balance sheet financing (11.10)
- **LO10** understand how to account for GST (11.11).

CHAPTER OVERVIEW[1]

Chapters 7 to 10 covered, in some detail, particular types of assets: cash, inventory, accounts receivable and noncurrent assets. This chapter provides a more detailed coverage of liabilities, which were introduced throughout Chapters 1 to 6 of the book.

11.1 What is a liability?

LO1 You may recall the following discussion of liabilities from Chapter 6. We have repeated it here to allow instructors to cover this chapter earlier if they wish. Also, an understanding of this material is critical for the remainder of the chapter. The *Framework for the Preparation and Presentation of Financial Statements* defines a liability as 'a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits'.

There are two essential characteristics of liabilities:

- A present obligation exists.
- The obligation involves settlement in the future via the sacrifice of service potential or future economic benefits.

Most obligations are legally enforceable; for example, if they arise out of contractual arrangements including money borrowed (e.g. loans), amounts owing on assets purchased or services provided to an organisation (e.g. accounts payable) or obligations to provide services to parties who have paid in advance (e.g. unearned revenue). Obligations can also be imposed on the entity, including damages awarded by courts, workers' compensation claims and income tax payable.

While most obligations are legally enforceable, the Framework states that obligations can also arise from normal business practice, custom and a desire to maintain good business relations or to act in an equitable manner; that is, to do what one ought to do in the pursuit of one's objectives rather than only what one is legally required to do. An example of such obligations occurs when a profit-seeking entity such as a car manufacturer, based on moral considerations, undertakes to rectify faults in one of its products even where these become apparent after the warranty period has expired. As a result, the amounts expected to be sacrificed (e.g. new parts, labour costs to repair) in accordance with this policy in relation to goods already sold would constitute an obligation. Another example of these obligations occurs when an entity has a policy of paying periodic bonuses to employees even though it is not contractually bound to do so, and bonuses for the current reporting period have not yet been paid.

The Framework also outlines the importance of distinguishing between present obligations and future commitments. The mere intention to sacrifice economic benefits in the future is not sufficient to give rise to a liability. For example, the management of an entity may decide to acquire assets in the future. Such a decision does not, of itself, create a present obligation. A liability would normally only arise when the entity has acquired the assets and *is* obliged to pay for them. Typical contractual terms are met following the delivery or installation of assets. However, long-term construction contracts often require progressive payments following completion of specified stages of asset construction. Under these circumstances, a liability is recorded for any outstanding payments.

The other essential characteristic of a liability is that it has adverse financial consequences for the entity in that the entity is obliged to sacrifice economic benefits to another entity or entities. Therefore, the existence of a liability depends on the present obligation being such that the legal, social, political or economic consequences of failing to honour the obligation leave the entity little, if any, discretion to avoid the future sacrifice of economic benefits to another entity. For example, assume an entity places an order for the purchase of goods. This action would not normally give rise to a liability, since the entity would normally have the discretion to avoid the future sacrifice of economic benefits by being able to cancel the order. The receipt of the goods would normally be the event that would create the liability. However, if the goods were to be made to the specifications of the purchaser, it might not be possible to cancel the order after, say, the supplier commenced manufacture of the goods, without significant penalties. In these circumstances, a liability would exist when the supplier commenced manufacture of the goods.

There are two essential criteria for the recognition of a liability:

- It is probable that the future sacrifice of economic benefits will be required.
- The amount of the liability can be measured reliably.

The term 'probable' means that the chance of the future sacrifice of economic benefit being required is more likely rather than less likely. This probability can range from virtual certainty to being highly unlikely.

An example of virtual certainty would be that wages during the month of June are due to be paid on 1 July. An example of something that is highly unlikely would be that the company has guaranteed a loan from the bank to a highly profitable subsidiary; the future sacrifice of economic benefits would only occur if the subsidiary defaulted on the loan. While the first example would meet the criteria for recognition of a liability, the second example would not.

The second essential criterion is that the amount of the liability can be reliably estimated. Verifiable evidence of the amounts to be paid and the dates of payment are available for the majority of liabilities (such as payments to creditors and repayments of loans). Other liabilities such as obligations to pay future product warranty expenses are less certain, but can normally be estimated reliably based on experiences with previous warranty claims. However, where the probability of payment is less certain or cannot be reliably estimated – such as possible damages arising from lawsuits – a liability is not recognised at this point in time. Nevertheless, to ensure that users are adequately informed about these liabilities, footnote disclosure is required where the information is likely to be relevant to users in their decision-making.

HOW'S YOUR UNDERSTANDING?

11A Which of the following meet the definition and recognition criteria for liabilities and would be included in the financial statements? If the item would be included, list the name of the liability.

(i) Amounts owing to suppliers for goods received.
(ii) Amounts owing to employees for work done during the year but not yet paid.
(iii) An order placed for $10 000 for inventory.
(iv) Amounts owing in holidays to be taken in future years.
(v) Cash received by an airline for the purchase of a ticket to the United States next month.

11.2 General measurement principles

This section summarises the basic principles and important things you should know about the measurement of liabilities, their valuation on the balance sheet and their connection to profit measurement. Only some parts will be new to you, but you should find the summary useful. LO2

Monetary liabilities (such as accounts payable, notes payable and loans) are measured at the present value (PV) of the cash flows associated with their service and eventual payment. PV is determined by discounting the cash flows at the rate of interest implicit in the original contract or other arrangement. Application of this principle means that most monetary liabilities are recognised in the financial statements at their face value. Items that are expected to be settled in the short term – such as trade creditors, accruals and current tax payable – are recognised at their face value because the rate of interest implicit in the contracts or other arrangements relating to those items is zero. (However, a payable that is subject to settlement discount is shown net of such discount.) In subsequent periods, monetary liabilities are adjusted to reflect any payments made to partially discharge the liability, but they are not adjusted for any valuation changes. Similar principles apply for non-monetary liabilities (e.g. provisions, discussed in section 11.8). However, an initial estimate is generally required to measure the expected future cash flows and the carrying amount is, subsequently, adjusted to reflect revised estimates arising over future periods.

The above principles have some important implications:

- The application of historical cost accounting to liabilities means that the amounts for most liabilities are those that arose when the debt was incurred. This is normally the same amount as will actually be paid.
- There is no recognition of non-historical interpretations of the debt. Three things, therefore, that are not recognised are:
  - interest that will have to be paid but has not yet accrued; for example, if a debt is due in two years, only the interest owed at year-end is added, not the interest for the next two years

- inflation, even though being in debt during a period of inflation is a good idea, because you pay back with dollars that are worth less than those you borrowed
- market value changes in public debt; for example, if interest rates have risen so much that a bond issued for $1000, but now paying an unattractive interest rate, is currently selling on the bond market for only $780, current rules do not permit a downward revaluation of the debt liability to reflect the lower market value in the balance sheet and the gain in the income statement.

- Unless there is evidence to the contrary, the company is assumed to be a 'going concern' and, therefore, debts are shown at the amounts that would normally be paid, and are expected to be paid, not at some other liquidation value that might be negotiated with creditors if the company got into serious financial trouble.
- When a liability increases, one of the following will also occur:
  - an expense will increase (e.g. wages expense/wages payable; employee entitlement expense/provision for employee benefits)
  - an asset will increase (e.g. cash/loan; inventory/accounts payable)
  - another liability will decrease (accounts payable/notes payable).

11.3 Financial statement presentation of liabilities

LO3 To assist users of financial reports in understanding the nature of liabilities, they (like assets) are normally presented in the balance sheet under current and noncurrent subcategories – unless presenting in broad order of their liquidity provides more relevant and reliable information.

A current liability is one that is expected to be settled within 12 months of the reporting date or in the normal course of the entity's operating cycle, where this can be clearly identified. All other liabilities are considered to be noncurrent (or long-term) liabilities. Thus, the principal difference between current and noncurrent liabilities is just their timing. For example, a bank loan due in five months is shown as a current liability, while one due in five years is a noncurrent liability. Their due dates may be the primary feature that distinguishes them. Similarly, an accrual for an expense that is expected to be paid in five months is a current liability, while one that is expected to be paid in 15 months is a noncurrent liability. Both are accruals used for profit measurement but they may differ primarily in timing. Because noncurrent liabilities tend to be harder to estimate as the future is further away, there may be more practical complexities for noncurrent liabilities than for current ones.

FOR YOUR INTEREST

When auditors are examining the accounts, they pay particular attention to ensuring that no current liabilities have been left out of the balance sheet, because an understatement of liabilities results in the overstatement of profits (think back to the accounting equation: for example, when a liability is understated an expense is usually understated). Banks are asked to provide written confirmation of loans, payments in the next period are reviewed to see if any are for liabilities and corresponding expenses that should have been recorded in this period, and accruals for unpaid wages, income taxes, interest and other expenses are checked.

Clarifying which liabilities are current, and which are not, is important for several reasons. The total current liabilities are part of the calculation of working capital, and the working capital ratio (current assets ÷ current liabilities) is very important in assessing an organisation's financial strength. Many of the current liability accounts are accruals of expenses, so ensuring profit is measured properly requires that the accruals are right.

As is true of assets, liabilities are significant both for their effect on balance sheet valuation and their connection to profit measurement. Their principal effect on profit measurement is through their association with expenses. Expenses arise from consuming the economic value of assets, such as inventory or fixed assets, but also from incurring liabilities. The incurrence of liabilities arises from expense recognition *prior* to the cash flow. Such accruals include accounts payable, income tax payable, employee entitlement liability (provision for employee entitlements) and warranty liability (provision for warranties) – topics that have been mentioned in earlier chapters and are examined in this chapter. Liabilities are sometimes associated with revenues, too, such as via the unearned revenue liability for revenue collected before it is earned. However, their main importance to profit measurement is through expenses.

Current and noncurrent liabilities are further classified according to their nature (liquidity, expected timing of settlement, source, security or other conditions attached to them). Consistent with this approach, the following line items (having a separate line for each item) are required disclosures on the face of the balance sheet: payables, interest-bearing liabilities, tax liabilities and provisions. Figure 11.1 provides some examples of each.

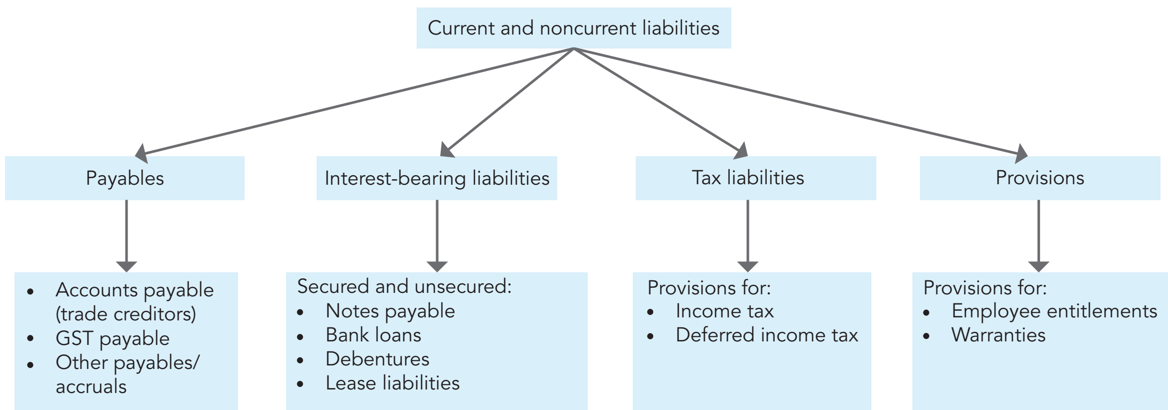

FIGURE 11.1 Typical liability disclosures

Additional line items can be added where they aid the users in their understanding of the financial statement. For example, Woolworths Limited in note 3.7 to its accounts split trade and other payables into trade payables ($5068.2m), accruals ($1418.7m) and unearned income ($197.8m) (see the appendix at the end of this book). This separation of payables is clearly relevant for understanding the significance of these items. Let us now consider the different types of liabilities shown in the balance sheet, and the accounting procedures for them.

11.4 Payables

The most common types of payables are accounts payable and accruals. Accounts payable (also called trade LO4
payables or trade creditors) are the amounts owed to suppliers for the purchase of inventory, supplies and services. These purchases are usually on open account, meaning that they are purchased on credit, and payment is to be made within a short period of time following delivery, such as within 30 days. When the invoice for the good or service is received, either an asset account (such as inventory or supplies asset) or an expense account (such as advertising expense or repairs expense) is debited and accounts payable is credited. When the creditor is paid, accounts payable is debited and cash is credited. Such transactions were considered in Chapters 3 and 4.

In contrast with accounts payable, accruals are liabilities to pay for goods or services that have been received or supplied but have not been invoiced or the amount is yet to be formally agreed with the supplier. Accruals are a product of the matching process behind profit measurement. They are usually

determined very carefully, because if they are not, an imprecise cut-off of the expenses between the relevant accounting periods would make both the current year's and next year's profit wrong. As a result, one would be overstated and one understated. That is, omitting an accrued expense will overstate the year's profit. These short-term accruals were discussed in Chapter 5.

Typical accruals include accrued interest and accrued wages (or wages payable), but can include other estimates such as the amounts owing to contractors who have not yet sent an invoice in but who have done the work during the financial period. Other examples of these include an estimate for electricity and other utilities that have been used in the accounting period but the invoice for actual usage has not been received. These are accounted for by an adjusting journal entry involving a debit to an expense account and a credit to a current liability account.

Other accruals relate to collecting *money on behalf of others the organisation then owes* – deducting income tax, superannuation contributions, union dues, and many other deductions from employees' pay. You've probably experienced these employee deductions. For example, you think you have earned, say, \$250, but your pay cheque is, say, only \$180 because of all the deductions. The employer is acting as a channel to get your income tax and other contributions to the government, the union, the medical insurer or wherever it is to go.

Employee deductions have some complications that the accounting system has to handle. One is that each deduction normally has to be sent to a different place; for example, income tax deducted goes to the government, union dues deducted go the union, and so on. A second complication is that the employer often has to pay on-costs in addition to the amount deducted from the employee. Superannuation, and many kinds of medical insurance and other insurance, are examples of these on-costs. Therefore, the wages the employee earns are not the only expense the employer incurs.

Suppose an employee earns \$1100 a week and the following deductions are made: income tax \$300, superannuation \$50, union dues \$40 and medical coverage \$65. Therefore, the employee will only receive a net take-home pay of \$645. In addition, the employer has to pay some on-costs: superannuation \$45, workers' compensation insurance \$15 and payroll tax due \$67. So, to the employer, the total cost of having the employee for the period is \$1100 plus on-costs, or \$1227 (\$1100 + \$45 + \$15 + \$67). Let's see how the accounting records would show all this (in the two entries below or one combined entry):

		$	$
DR	Wages expense	1 100	
CR	Income tax deductions due		300
CR	Superannuation due		50
CR	Union dues due		40
CR	Medical insurance premiums due		65
CR	Wages payable		645
DR	On-costs expenses (or include in wages expense)	127	
CR	Superannuation due		45
CR	Workers' compensation insurance due		15
CR	Payroll tax due		67

In the above example, superannuation contributions are made by both the employee (\$50) and the employer (\$45), which is common practice.

Accruals are often reported as part of accounts and other payables rather than reported separately in the footnotes to the financial statements. Other payables that may be separately listed in the footnotes include other (non-trade) creditors, foreign currency hedges or currency swap payables, amounts due on construction contracts, and goods and services tax payables (GST). (Accounting for GST is considered in section 11.11.)

HOW'S YOUR UNDERSTANDING?

11B Why is it important to measure current liabilities accurately?

Unearned revenue, although strictly a deferral, is also often included under accruals. Unearned revenue can arise from customer deposits, other revenue received in advance or an overpaid accounts receivable. Although not necessarily a legal debt, unearned revenue is an economic one, in that the organisation has received the cash but has not yet earned the money. In a business sense, it is also a debt, because it would be poor business practice to collect money in advance from customers and refuse to either do the agreed revenue-earning work or return the money.

11.5 Interest-bearing liabilities: short term[2]

LO5

Short-term interest-bearing liabilities primarily include bank overdrafts, notes payable and various forms of debt securities, such as bank loans and borrowings. A bank overdraft provides a company with a line of credit up to a pre-established amount, and avoids the cost of applying for small loans. Notes payable (sometimes called bills payable or bills of exchange) are written promises to repay a loan plus interest at a specified date to a bank or other lender. Importantly, the interest-bearing characteristic and the written documentation distinguish notes payable from accounts payable.

Notes may be issued when merchandise or other assets are purchased where trade credit is not available or is impractical. They may also be issued to creditors to temporarily satisfy an account payable created earlier. For example, assume that a business issues a 90-day, 12 per cent note for $1000, dated 1 August 2019 to Murray Ltd for a $1000 overdue account. The entry to record the issuance of the note is as follows:

			$	$
Aug. 1	DR	Accounts payable	1 000	
	CR	Notes payable		1 000
		Issued a 90-day, 12 per cent note on account		

When the note matures, the entry to record the payment of $1000 principal plus $30 interest ($1000 × 12% × 90/365 rounded to the nearest dollar) is as follows:

			$	$
Oct. 30	DR	Notes payable	1 000	
	DR	Interest expense	30	
	CR	Cash		1 030
		Paid principal and interest due on note		

If the note had not matured at year-end, it would be necessary to take up the accrued interest (debit interest expense; credit interest payable).

Notes payable entries are presented from the viewpoint of the borrower. To illustrate this, the following entries are journalised for a borrower (Bowden Ltd), which issues a note payable to a creditor (Coker Ltd)

(recall that the terminology 2/10, n/30 means that a 2 per cent discount will be given if paid within 10 days; otherwise the full amount is due within 30 days):

				$	$
1 May	Bowden Ltd purchased inventory on account from Coker Ltd, $10 000, 2/10, n/30.	DR	Inventory	10 000	
		CR	Accounts payable		10 000
31 May	Bowden Ltd issued a 60-day, 12% note for $10 000 to Coker Ltd on account.	DR	Accounts payable	10 000	
		CR	Notes payable		10 000
30 July	Bowden Ltd paid Coker Ltd the amount due on the note of 31 May. Interest $10 000 × 12% × 60/365.	DR	Notes payable	10 000	
		DR	Interest expense	197	
		CR	Cash		10 197

Notes may also be issued when money is borrowed from banks. These are often called commercial bills payable. For example, assume that on 19 September, a firm borrows $4000 from First National Bank by giving the bank a 90-day, 15 per cent note. The entry to record the receipt of cash and the issuance of the note is as follows:

			$	$
Sept. 19	DR	Cash	4 000	
	CR	Notes payable		4 000
	Issued a 90-day, 15 per cent note to the bank			

On the due date of the note (18 December), the borrower owes $4000, the principal of the note, plus interest of $150 ($4000 × 15% × 90/365). The entry to record the payment of the note is as follows:

			$	$
Dec. 18	DR	Notes payable	4 000	
	DR	Interest expense	148	
	CR	Cash		4 148
	Paid principal and interest due on note			

It is important to understand that a debt may comprise a current and a noncurrent component. In order to determine current liabilities, GAAP requires that if there is a noncurrent debt on which some payment is to be made within the next year, that payment must be included in current liabilities. So a single debt is split into two parts: current and noncurrent. This does not affect the legal debt in the slightest: it is done to meet the presentation objectives outlined above.

There's a twist here you should watch for that is consistent with the rule of not recognising future interest. In accordance with the above points, it's only the *principal* portion payable in the next year that's called current. Suppose, for example, that Jocelyn owes $71 000 on her mortgage and during the next year must make 12 monthly payments of $1000, including interest. If the interest will amount to $6400 over the next year, her balance sheet will show a current liability of $5600 ($12 000 − $6400) and a noncurrent liability of $65 400 ($71 000 − $5600). The $6400 that will be next year's interest is ignored at this point because it has not yet accrued. Her total debt in the balance sheet is $71 000 ($5600 + $65 400), not $77 400 or $83 000.

11.6 Interest-bearing liabilities: long term

LO5 Before considering long-term interest-bearing liabilities, it is informative to consider alternative forms of external company financing. The basic alternative forms are equity capital or debt capital. In addition, there are hybrid forms that exhibit both debt and equity characteristics. These alternatives are shown in Figure 11.2.

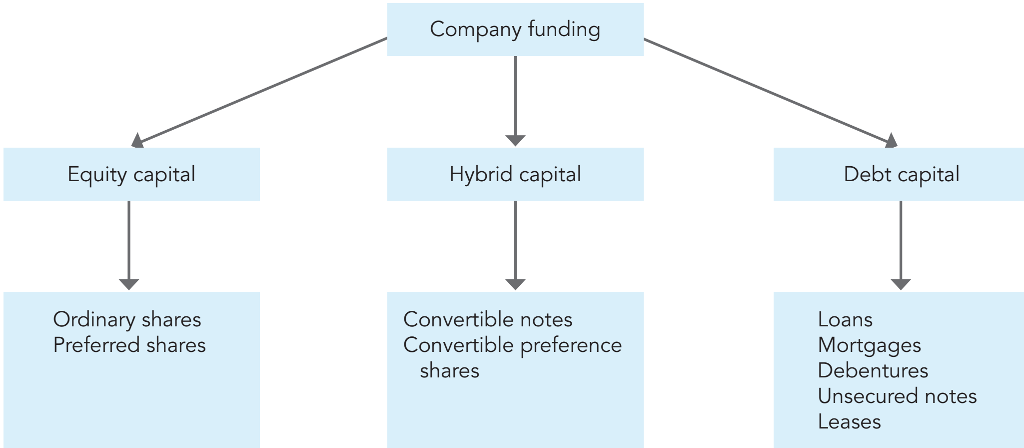

FIGURE 11.2 Alternative forms of external company financing

Following incorporation, most companies have an ongoing need for external sources of finance to fund current operations and strategic growth plans. Corporate management weigh up the costs and benefits of equity and debt capital, and financial instruments that have characteristics of both debt and equity (hybrid securities), in choosing their optimal capital structure. Equity (share) capital is examined in Chapter 12. In this section, we will consider the accounting treatment of alternative types of debt and hybrid securities.

Alternative forms of debt capital

Long-term debt financing can come in various forms. Common forms are mortgages, debentures and unsecured notes, and private loans. These are distinguished on the basis of the amount of security available to protect the lender. Various combinations of these securities may exist at any one time in a company's capital structure.

A *debenture* is a general kind of loan that is simply a contract between the company and the holder that acknowledges the receipt of funds in exchange for a series of payments at a fixed rate on preset dates over the term of the debenture. These may be issued to a single individual or may be issued to the general public. A debenture must be fully secured over the issuing company's assets. A debenture secured only by first mortgage over real estate is described as a *mortgage* or, more formally, as a *mortgage debenture*. The lender can claim title to those assets if the company does not make the agreed payments on time.

In contrast to debentures, an *unsecured note* is a debt that is not secured by a charge over company assets but, in other respects, is similar in format and in operation to a debenture. However, because of the absence of security, these debt securities are much less common than debentures or other types of securities. *Loans* are the most common type of debt financing for short-term and smaller loans, and are taken out with banks, other financial institutions or commonly, for private companies, from shareholders. These loans may be secured or unsecured over company assets. The lender may also require the borrowing company's directors to provide personal guarantees in cases where there is considerable uncertainty about repayment and/or the liquidation value of the borrowing company's assets.

Contractual terms for debt securities are specified in loan agreements (or a clause in the debenture trust deed). These terms provide a set of specifications that the borrower must meet, otherwise the lender can demand payment or take other punitive action. Such specifications may require the borrower to maintain a particular level of working capital, or a particular working capital ratio, a particular debt-to-equity ratio, or meet other conditions defined on the financial statements. (Such agreements may tempt management to choose accounting policies designed to help the financial statements meet the agreed specifications.)

ACCOUNTING FOR DEBENTURES

Below, as an illustration, we show the accounting entries for debentures. The entries for other forms of long-term debt will be left to more advanced courses.

The public issue of debentures or notes requires a prospectus to be issued. An approved trustee must be appointed, and the trustee administers a debenture trust deed. In most cases, debentures are issued at face value and are either fully paid or paid by instalments. As a result of a $10 million debenture issue, cash would increase by $10 million and debenture liabilities would be increased by $10 million.

		$	$
DR	Cash at bank	10 000 000	
CR	Debentures		10 000 000

Discounts or premiums on noncurrent debts

Sometimes, noncurrent debt (including debentures) is issued at a discount or a premium. Suppose an organisation decides to borrow using a debenture issue that is composed of $1000 debentures carrying 7 per cent interest. What happens when, if the debenture issue is all ready, interest rates in the market for such debentures rise to, say, 8 per cent? Lenders would not want a 7 per cent debenture. Therefore, the organisation sells the debentures at a discount (i.e. a lower price), such that the amount the lender pays will earn 8 per cent. The lender gives the company less than $1000 for each debenture, and that lower amount is such that the $70 interest (7 per cent of $1000) represents the 8 per cent the lender wants. If the interest rates have fallen, say, to 6 per cent, the lender will be willing to pay more than $1000 for each debenture, such that the $70 interest represents the 6 per cent return the lender wants. So, the organisation gets a premium for the debentures, more than $1000 each. (This explanation is a little simplified; the present value calculations behind debenture prices are included in the appendix to this chapter.)

Here is an illustration: Assume an issue of 10 000 $1000 debentures – therefore having a total legal debt of $10 million – has sold for a total of either (a) $8 760 000 (a discount) or (b) $11 180 000 (a premium). The selling prices can be said to be the appropriate price for that debenture at prevailing market interest rates. Therefore, in (a), the debenture pays interest at a rate below market rates, and in (b), pays at a rate above market rates. At the date of issue of the debentures, the proceeds and the discount, or premium, are recorded this way:

Discount		$	$
DR	Cash (proceeds)	8 760 000	
CR	Debenture		10 000 000
DR	Debenture discount	1 240 000	

Premium		$	$
DR	Cash (proceeds)	11 180 000	
CR	Debenture		10 000 000
CR	Debenture premium		1 180 000

The debenture account is a liability. But so is the discount or premium. The premium or discount account works as a contra account, to change the valuation of the liability without changing the legal debt account. (The premium is a credit balance account, so it is not opposite in sign to debentures, as contra accounts like the allowance for doubtful accounts and accumulated depreciation are.) The legal debt is what has to be repaid; the discount or premium is just an adjustment to get the proceeds to an amount that will bring the debenture market the return it requires. So, on the day of issue, the organisation's balance sheet would show a liability called debenture, at the amount of $8 760 000 (in the case of the discount: $10 000 000 – $1 240 000) or $11 180 000 (in the case of the premium: $10 000 000 + $1 180 000). Thus, the reported liability meets the historical cost criterion: it is what was received for the debentures.

However, the amount of the proceeds is not what will eventually be repaid to the lenders. This amount is $10 million in both cases. So, the discount or premium is *amortised* over the period until the debentures are due. It therefore shrinks away until on the due date it is zero and the $10 million is correctly shown as the debt on that date. The period's amortisation amount is included with interest expense reported in the calculation of net profit. The discount is a debit, so amortising it adds to the interest expense, making the

reported expense higher than the $70 cash interest paid per debenture. This makes sense, as the reason for the discount is that the debenture market demanded a rate higher than 7 per cent, and by selling the debentures at a discount, the organisation provided that. The real interest cost is higher than $70. In the case of a premium, the amortisation reduces the reported interest expense, which again makes sense because the debenture market was happy with a rate lower than 7 per cent and by selling the debentures at a premium, the organisation provided that. Thus, the reported interest expense approximates the market rate demanded when the debentures were sold.

If you already understand the concept of present value (in the appendix to this chapter and in many introductory quantitative methods courses), you will see that what is happening is that the debenture, adjusted by the unamortised discount or premium, is being shown on the balance sheet at the present value of the debenture (calculated at the market interest rate in effect when the debenture was issued). Methods for calculating amortisation of a discount or premium are in more advanced accounting books.

11.7 Tax liabilities

There are two types of income tax liabilities recognised in the balance sheet. The first is a current liability for income taxes due to the tax authorities (called income tax payable). The second type of income tax liability is for a noncurrent liability arising from temporary differences between the tax calculated for accounting purposes and the assessable tax calculated by tax authorities. These differences arise because tax authorities do not always require that the same method be adopted for income tax purposes as used for accounting purposes. LO6

For example, many companies use a straight-line depreciation method to depreciate items of plant or equipment in their accounting systems. However, tax authorities allow companies to use a straight-line method or an accelerated method for income tax purposes. Because of this option, many companies that use a straight-line method for accounting purposes adopt an accelerated depreciation method for tax purposes to obtain the early benefit of the allowable deductions. As a consequence, the carrying amount of an asset (e.g. equipment) reported in the accounting records at the end of the first period will exceed the carrying amount (the tax base) used for tax purposes. Put another way, the amount of assessable economic benefits (assessable amounts) shown in the accounting records for the asset will exceed the amount that will be allowed in future periods as a deduction for tax purposes. This difference is an *assessable temporary difference* and the obligation to settle the resulting income taxes in future periods is a *deferred tax liability*. (The opposite situation would lead to a deductible temporary difference – a deferred tax asset.) This topic can get very complicated so further details are left to a more advanced course.

11.8 Provisions

Provisions are also examples of liabilities. They are liabilities for which the amount or timing of the future sacrifice of economic benefits that will be made is uncertain. While other liabilities, such as accounts payable and accruals, may involve some uncertainty, this uncertainty is generally insignificant and therefore does not create major measurement problems. LO7

A provision shall be recognised when:

a an entity has a present obligation as a result of a past event;

b it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation; and

c a reliable estimate can be made of the amount of the obligation. (AASB 137)

If these conditions are not met, a provision will not be recognised and instead a contingent liability will be disclosed in the notes (see section 11.9).

The above definition of a provision refers to the need for there to be a present obligation. In most cases the present obligation will be clear (such as annual leave, long service leave or warranties), but the amount

or timing is uncertain. However, in some cases, such as lawsuits, the present obligation is less clear. In this case a past event is deemed to give rise to a present obligation if it is more likely than not that a present obligation exists at the balance date; that is, professional judgement by the accountant is needed. In this case it may be necessary to seek additional evidence from other experts (such as legal experts).

The present obligation means that the entity must have no realistic alternative but to make the future sacrifice of economic benefits to settle the obligation (e.g. pay cash, replace inventory, or use labour for rework or to fix a deficiency). As stated earlier, the most common form of present obligation is a legal obligation to some external party. However, there are also constructive obligations that leave the entity with no realistic alternative but to make future sacrifices of economic benefits.

Examples of entities with constructive obligations that constitute provisions are as follows:

1. Consider an entity that has developed a detailed formal plan for a restructuring and announced its main features to those affected but has not entered into any contracts to carry out the restructuring. As a result of its actions, the entity has no realistic alternative but to proceed with the restructuring.
2. An entity makes a public announcement that it will match the financial assistance provided by other entities to victims of a specific natural disaster. For example, it is common practice for some firms to match the donations of their employees. Because of custom and moral considerations, the entity has no realistic alternative but to provide the assistance.

Provisions only include obligations from past events and they exist independently of the entity's future actions. For example, a penalty for past unlawful trade practices will require the sacrifice of future economic benefits to settle the fine, and it exists regardless of future actions of the entity. Therefore, it will be recorded as a provision provided a reasonable estimate of the amount of the obligation can be made. However, the mere intention to make a future sacrifice of economic benefit is not sufficient to give rise to a present obligation, even if the sacrifice is necessary for the continuation of the entity's operations. For example, an entity deciding to upgrade equipment in the future in order to maintain competition does not of itself create a present obligation.

Two examples of accounting for provisions are provided below.

1. *Warranty liability* (provision for warranties): the estimated future cost of providing warranty service for products already sold (i.e. revenue has already been recognised). In the period in which a product is sold, an expense is recognised to match to the revenue by the expense recognition entry: debit provision for warranty expense, credit provision for warranty liability. When a warranty cost is incurred, the liability is reduced by the payment: debit provision for warranty liability, credit cash; or if a replacement product is provided: debit warranty liability, credit inventory. If, as is likely, some of the warranty cost will be paid within the next year, that amount is included in current liabilities.
2. *Provision for employee entitlements:* part of the conditions of employment for most staff is that they receive annual holidays (they may take them in the current year or they may accrue them to take in subsequent years) and, if they stay a certain number of years with the same company, they are entitled to long service leave. For example, after 10 years of service they may receive six weeks' leave. The amount of leave increases the longer they remain with the company. So, each year the company will debit annual leave expense and long service leave (LSL) expense and credit an appropriate liability account (e.g. provision for annual leave and/or provision for LSL). There are lots of assumptions that need to be made in determining the dollar amount of the liability, including estimates of staff turnover and future salaries. We will leave these complications to later courses.

FOR YOUR INTEREST

For example, car manufacturers give warranties on their cars. Traditionally these warranties were for only one or two years but now some manufacturers give up to seven years. Given these cars have good reputations for reliability, the provisions may not need to be particularly large. But what happens if a new line of research discovers that certain types of safety equipment becomes less effective after a few years. Suddenly, the company had to increase its warranty provision, current and noncurrent, because of the cost of fixing real or imagined problems. Its warranty expense estimates had been appropriate under previous conditions but were suddenly found to be insufficient by the unanticipated event of the new research. It's an example of the unavoidable fact that accrual accounting estimates of the future, no matter how carefully made, can easily turn out later to have been wrong.

HOW'S YOUR UNDERSTANDING?

11C The accounting records of Gizmo Pty Ltd showed that at 1 January 2019, provision for warranty claims was $7400, and for the year ended 31 December 2019, sales were $260 000. In the past, Gizmo's warranty expense has been 9 per cent of sales and this rate is again expected for next year. During the current period, Gizmo paid $14 032 to satisfy warranty claims.

(i) What is Gizmo's warranty expense for the year to 31 December 2019?

(ii) What is the closing balance of provision for warranty claims recorded on the balance sheet as at 31 December 2019?

As an example, assume a company starts accruing long service leave for staff after five years. They have decided not to accrue any earlier than this because they find, on average, that they have a high staff turnover in the early years and, therefore, these staff don't eventually get long service leave. Assume the company (based on past history relating to length of employment and estimated future salaries) determines that the long service leave expense for a particular employee for years six to 10 is $10 000 per year. Also assume that, in year 11, the staff member takes long service leave. In this simplified example, the accounting equation would look like this:

	A	= L	+ Shareholders' equity
Year	**Cash**	**Provision for long service leave**	**Long service leave expense**
6		+10 000	+10 000
7		+10 000	+10 000
8		+10 000	+10 000
9		+10 000	+10 000
10		+10 000	+10 000
11	−50 000	−50 000	

That is, the provision will build up each year to $50 000 in year 10. In year 11, when the person takes the leave the liability is reduced to zero (debit provision for long service leave, credit cash).

FOR YOUR INTEREST

Staff often wonder why members of management want them to take long service leave. One reason is that salary rates generally increase over time, so management wants them to take the leave at the lower rate. Often more important is the impact on the financial statements. When a person takes long service leave, cash decreases and a liability decreases (provision for LSL). Therefore, it does not reduce profit (as expenses were taken up in earlier years). However, if the employee had not taken leave, the entry would be debit wages expense and credit cash, both for $10 000 (based on the example above). In this case, there is a wages expense in this period and, therefore, profit will decrease. In both cases, cash decreases by the same amount. Thus, by getting staff to take long service leave, it has no effect on cash but has the dual benefits of increasing profits and reducing liabilities.

HOW'S YOUR UNDERSTANDING?

11D Which of the following would be included under provisions?

(i) The company decides to upgrade equipment next year; the cost will be $100 000.

(ii) The company receives an invoice for $10 000 for an advertisement that appeared in the local paper.

(iii) The company produces televisions and estimates that warranty costs over the next two years will be $40 000.

(iv) A company owes employees a total of 405 days' pay in holidays at year-end but is uncertain when they will take the leave.

11.9 Contingent liabilities

LO8 Contingent liabilities are:

(i) possible obligations, as it has yet to be confirmed whether the entity has a present obligation that could lead to an outflow of resources embodying economic benefits; or

(ii) present obligations that do not meet the recognition criteria in this Standard (because either it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation, or a sufficiently reliable estimate of the amount of the obligation cannot be made). (AASB 137)

There are two types of contingent liabilities. One type is possible liabilities that arise from past events, the existence of which will be confirmed only by the occurrence or nonoccurrence of one or more uncertain future events not wholly within the control of the entity. An example of this would occur when a tax audit of the entity is in progress and the taxation authority has expressed concern about, but not yet disallowed, particular income tax deductions claimed in previous reporting periods. This gives rise to a possible present obligation for additional income taxes; but the entity can obtain independent advice that the deductions were claimed correctly and dispute any disallowance of the deductions.

The other type of contingent liability is the type where existence is not in doubt but the liabilities fail either or both of the criteria for recognition. The following are examples of circumstances that give rise to liabilities that do not meet the criteria for recognition, and therefore are contingent liabilities:

- the entity has provided a firm guarantee or indemnity to a financier for a loan taken out by another entity, and at the reporting date default on the loan is less than probable
- the entity is making or defending a claim for unspecified damages and no amount of the claim (including its minimum amount) can be measured reliably as at the reporting date, given the nature of the claim.

AASB 137 provides the decision flow chart in Figure 11.3. The purpose of this decision flow chart is to summarise the main recognition and disclosure requirements of the Standard for provisions and contingent liabilities.

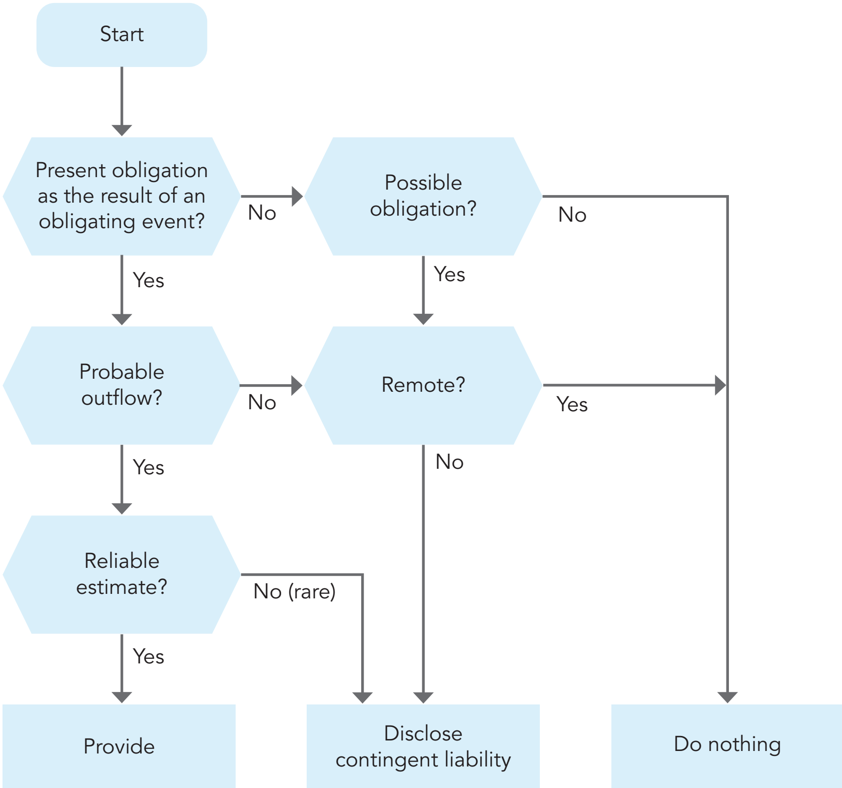

FIGURE 11.3 Provisions and contingent liabilities

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The main requirements of AASB 137 with respect to provisions and contingent liabilities are set out in Appendix A of AASB 137:

Where, as a result of past events, there may be an outflow of resources embodying future economic benefits in settlement of (a) a present obligation; or (b) a possible obligation whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity:

There is a present obligation that probably requires an outflow of resources.	There is a possible obligation or a present obligation that may, but probably will not, require an outflow of resources.	There is a possible obligation or a present obligation where the likelihood of an outflow of resources is remote.
A provision is recognised (paragraph 14).	No provision is recognised (paragraph 27).	No provision is recognised (paragraph 27).
Disclosures are required for the provision (paragraphs 84 and 85).	Disclosures are required for the contingent liability (paragraph 86).	No disclosure is required (paragraph 86).

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Most important to note is that contingent liabilities are *not* recognised in the balance sheet, but are separately disclosed in the notes to the accounts.

HOW'S YOUR UNDERSTANDING?

11E The following note relating to contingent liabilities is taken from the financial statements of Makebelieve Limited.

Legal actions exist against a company relating to a claim for damages in respect of a product warranty. Liability is not admitted and the company will defend the action. Professional legal advice indicates that no loss will result from these claims.

(i) Briefly explain why the contingent liability outlined above will not appear on the company's balance sheet.
(ii) From the perspective of a prospective investor, briefly discuss the importance of disclosing contingent liabilities in a company's financial statements.

11.10 'Off balance sheet' financing

LO9 Sometimes companies will arrange for sources of financing that do not meet the accounting definition of a liability or an equity item and, as a result, this source of financing does not appear on the balance sheet. Because of this treatment, financial statement users may be concerned that such sources of financing are sought by management because they do not appear on the balance sheet and, therefore, do not affect the debt-to-equity ratio, the current ratio or other measures. In some circumstances, such sources of financing might not be disclosed at all, so that the user would not be aware of the financial commitment they imply. This concern led accounting standards to deem one such source – long-term leasing of important fixed assets – to be equivalent to a liability and require its recognition and disclosure, as described earlier. Where leases are classified as finance leases, this source of financing has consequently been brought onto the balance sheet as a finance lease liability, where its economic substance is really like a mortgage or other noncurrent obligation. The accounting for leases is a more advanced topic and will be covered in more advanced accounting courses.

New financial arrangements are being invented all the time, and the impact they have on the balance sheet (or might have depending on the company's accounting policies) is likely to be a factor in their acceptability and popularity. Some examples of financing that may not be well reported in the financial statements include:

- ordinary rental and leasing contracts, particularly non-cancellable operating leases that may be structured to avoid being classified as a finance lease
- long-term purchase commitments to get favourable terms on delivery or prices (i.e. a company signs a contract to buy a set amount of products at a particular price over the next three years)
- the use of joint ventures, partnerships, associated companies or other types of entities (like the special purposes entities used by Enron) to borrow money so that the commitments do not show up on the parent company's balance sheet.

Fortunately, companies make mandatory and voluntary footnote disclosures about many of the above off balance sheet financing activities, so the extent of these activities can be assessed. Analysts and other users of financial information often use these footnotes to make adjustments to the reported financial statement numbers.

Following the Global Financial Crisis, there has been renewed effort by international accounting standard-setters to address the gaps in the accounting rules that allow off balance sheet financing to continue.

11.11 Goods and services tax

This section covers Australia's goods and services tax (GST), including the liability account GST payable. This account is included in the payables section of the balance sheet. We have left GST until now, so that it can be discussed in detail without over-complicating your earlier understanding of the recording of transactions. LO10

We have already seen that companies pay taxes to the Australian Government that are levied on their profit. Like other expenses, income tax expense is subtracted from revenue to determine the financial performance of a company over a period; that is, the company's net profit or loss. While company taxes have a direct impact on financial performance, companies and other organisations can also be affected by the other two types of tax that form part of the taxation system: direct (personal) taxes and indirect taxes. While a company is not, in itself, liable for these types of tax, it acts as an *agent* for the Australian Taxation Office (ATO) in its collection and remittance activities. For example, while employees are individually liable for personal income tax on their salaries or wages, companies are required to withhold this tax when they pay their employees and remit it to the ATO under the Pay As You Go (PAYG) withholding system. From the company's perspective, salaries and wages paid to employees are an operating expense. That portion of the salary or wage that is withheld does not change the operating expense of the company, but does create a liability to a third party, the ATO. Accounting for such taxes as PAYG was covered in section 11.4.

Companies are also affected by indirect taxes and the most common examples of indirect taxes are called value-added taxes. Many countries, including New Zealand, the United Kingdom and Canada, operate a system of value-added tax. In Australia, a 10 per cent value-added tax known as a goods and services tax (GST) was introduced on 1 July 2000. A GST is a broad-based consumption tax: broad-based because it applies to most transactions in the economy, and consumption because it applies to the amounts spent on goods, services and activities.

Figure 11.4 highlights the key features of the Australian GST system. The choices available to a business under the GST system depend on turnover, a concept roughly equivalent to total annual revenue. If a business is registered for the GST, it collects an additional 10 per cent tax on its sales on behalf of the government. Smaller businesses have the choice of accounting for GST on either a cash or accrual basis. Smaller businesses are also able to remit amounts to the ATO quarterly or monthly. Businesses with an annual turnover of $2 million or less have the choice to pay GST instalments quarterly and lodge a GST return annually. Large businesses account for the GST on an accrual basis and remit amounts monthly.

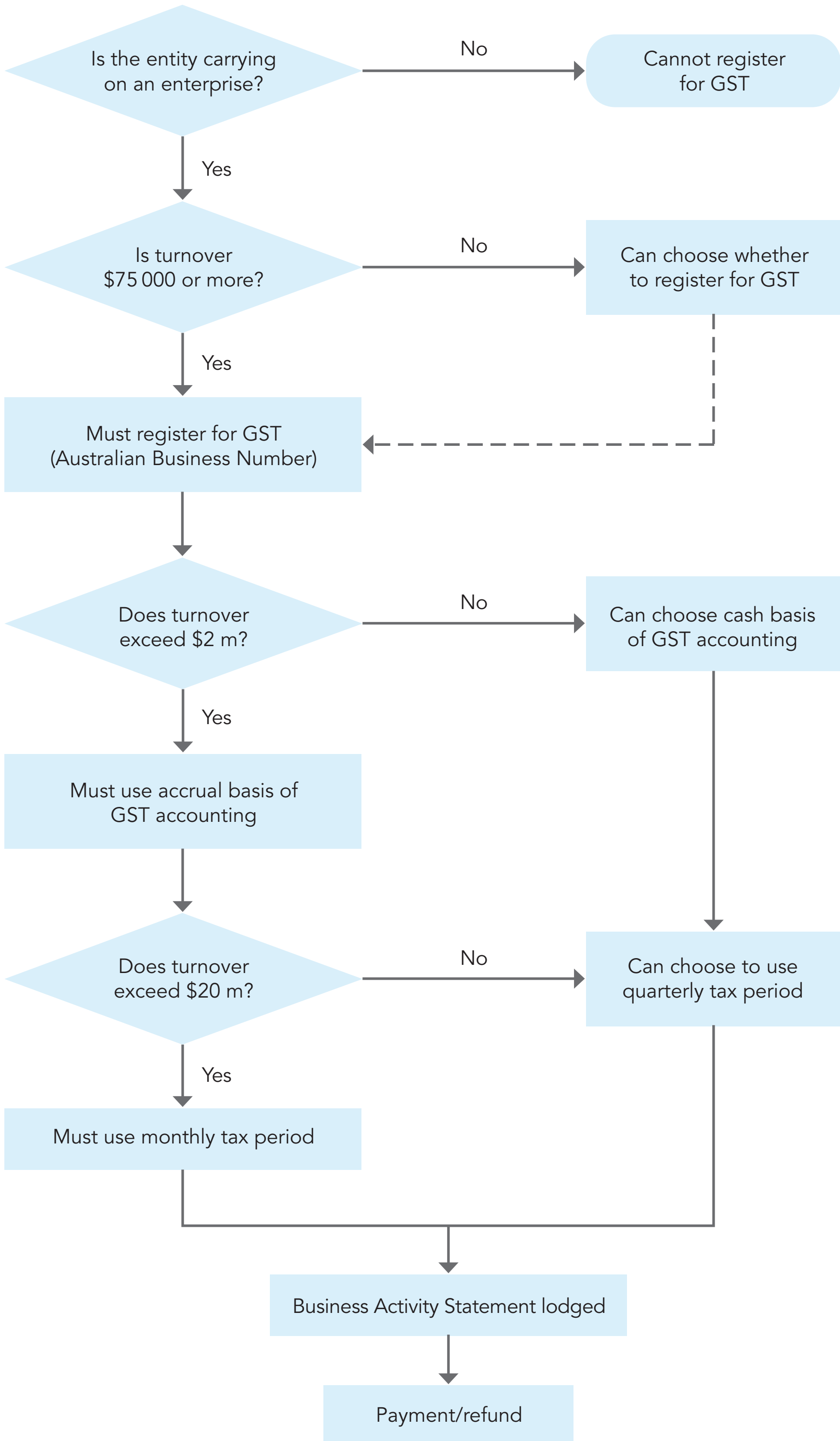

FIGURE 11.4 Simplified flow chart showing the main elements of the GST system for Australian business

GST is recorded in the accounting system as part of the process of preparing the balance sheet. It also aids in the preparation of a Business Activity Statement (BAS), which includes a GST return which is submitted to the ATO.

The following examples illustrate how the GST system operates.

The simplest case is that of a supply chain with two parties. Let's assume that R. Chan provides $1000 of consulting services to M. Baker. Under the GST system, the consulting services represent a taxable supply (services are supplied by R. Chan to M. Baker) and 10 per cent GST is added to the price paid for the service, as illustrated in Figure 11.5.

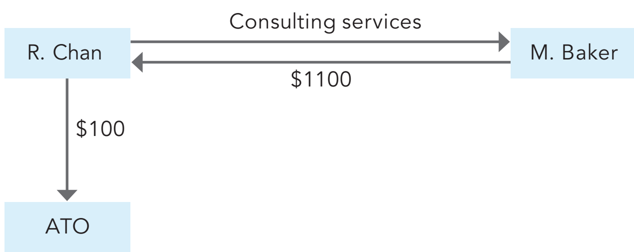

FIGURE 11.5 Simple model of the GST system as it affects two parties

We see that M. Baker acquires consulting services in exchange for $1100. From the perspective of R. Chan, $1100 is to be collected; $1000 of this amount represents revenue for the services supplied and $100 represents the GST collected on behalf of the ATO, to be remitted at the end of the tax period. The following journal entry records the transaction:

		$	$
DR	Cash or accounts receivable	1 100	
CR	Consulting revenue		1 000
CR	GST payable		100

The GST payable account is a current liability account that accumulates the GST collected on all applicable sales. When the GST that is due is paid to the ATO, the liability account is reduced. At any date, the GST payable account shows what has been collected but not yet remitted to the ATO. It is, therefore, a control account for the seller's obligation to the government. It shows the way the seller has been a channel for the government's money, because it goes up when sales subject to GST are made and down when the money is sent to the ATO.

Because M. Baker is the final consumer, this example is relatively simple. However, things are usually a bit more complicated than this, because R. Chan is likely to have to pay GST on purchases it has made from suppliers.

Let's assume that R. Chan pays $44 for paper supplies from P. Lee. A value-added tax system, such as the GST, operates through the collection of GST each time a taxable supply is made in the supply chain. In this case, the paper represents a taxable supply, so GST is included in the price paid by R. Chan. To work out the amount of GST, we can divide the price by 11: $44/11 = $4. However, because R. Chan is registered for GST and intends to use the paper for business purposes, it becomes a creditable acquisition for R. Chan. This means that R. Chan is able to deduct any GST on its own purchases and expenses from the amount to be sent to the ATO. Therefore, the GST due to the government is the difference between GST collected and GST paid. In this way, the effective responsibility for the payment of GST is shifted along the supply chain.

If we extend our simple example, we can see how this works (see Figure 11.6).

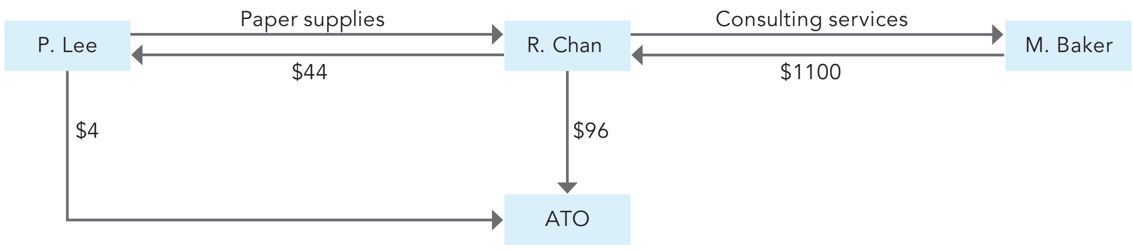

FIGURE 11.6 Simple example of how the GST system works along the supply chain

There are a number of things to notice in this example:

- P. Lee has no business inputs, because it is the first link in the supply chain and, therefore, has no creditable acquisitions. On making a taxable supply to R. Chan, P. Lee collects $4 GST and remits the amount to the ATO.
- R. Chan pays GST on its acquisitions and collects GST when it supplies consulting services. The amount remitted to the ATO is the difference between the GST paid and collected in any tax period. In the above example, R. Chan pays $4 GST to P. Lee and collects $100 from M. Baker. The difference of $96 is remitted to the ATO.
- M. Baker pays $100 GST on the consulting services bought from R. Chan. Because M. Baker is the final consumer, there is no GST collection to offset the GST payment.
- The ATO continues to receive a total of $100.

So how does R. Chan record its purchase of paper supplies? The first thing to note is that part of the $44 paid to P. Lee is for GST, and this provides an input tax credit of $4 for R. Chan. The paper itself is valued at $40. The following journal entry records the transaction:

		$	$
DR	Supplies expense	40	
DR	GST recoverable	4	
CR	Cash payable		44

Assuming that the GST collected in a business is usually greater than the GST paid, the GST recoverable account could be treated as a contra account to the GST payable account. It is possible for the GST payable account to be a debit (an asset) if the company makes particularly large purchases and has small sales in a given period. For example, this might occur if a business acquires noncurrent assets, where the GST paid is claimed immediately.

Our discussion suggests a number of generalisations:

- GST is not a business tax. The main impact for business might be on cash flow planning because of differences in timing between GST paid and collected.
- The final consumer bears the cost, because he or she is not able to claim input tax credits on acquisitions.
- If input tax credits are available, any GST paid does not become part of an expense or the cost of the acquisition of an asset.
- Any GST collected does not form part of a business's revenue.
- GST is collected at each point in the supply chain, bringing forward the collection of tax.

There is much more to the operation of the tax system than can be covered in this brief introduction. For those who are interested, current information can be obtained at: http://www.ato.gov.au. As you will find, tax is a very challenging and dynamic area!

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Warranty accruals

Balmer Ltd has a warranty plan. Estimated warranty liability was $50 000 at the beginning of the year. Based on the company's sales for the year, warranty service costing $78 500 in wages and other costs, plus $62 000 in replacement products, was expected to have to be provided eventually. Actual expenditures for the year were $84 000 in wages and other costs and $78 000 in replacement products.

1 Calculate warranty expense for the year and estimated warranty liability at the end of the year.
2 Write one or more journal entries to record Balmer Ltd's warranty experience for the year.

PRACTICE PROBLEM B

Accounting for GST

Barbarino Ltd undertakes consulting services for large food-processing organisations. The company is registered for GST, and accounts for GST on the cash basis.

At the end of March 2019, the GST payable account had a balance of $400 and the GST recoverable account a balance of $144.

During April 2019, Barbarino Ltd recorded these transactions:

6 April	Received from FCD Ltd the sum of $4000 + $400 for GST.
8 April	Received from VKL Ltd the sum of $4950 (including GST).
15 April	Sent cheque to the ATO for the net amount of GST payable for March.

Prepare general journal entries to account for the month of April.

PRACTICE PROBLEM C

Events giving rise to liabilities

The following events occurred during the year ended 30 June 2019 for Plumber Limited.

1 Opening balance of accrued salaries was $10 000. Wages expense for the year was $630 000 and cash paid for salaries was $600 000.
2 On 1 May 2019, Plumber signed a three-month, 12 per cent per annum note payable to purchase a new machine costing $48 000. Interest and principal are paid at maturity.
3 On 15 May 2019, Plumber received rent in advance of $6000 from WYZ for a three-month lease of premises.
4 June sales totalled $212 000. Plumber collected GST of 10 per cent on this amount. This is due to be paid to the tax office by the seventh day of the month following collection.
5 Electricity charges of $40 000 from 24 April to 23 June are payable on 10 July.
6 On 30 June 2019, Plumber took out a loan for $110 000 from Oscar Bank. Repayments of principal are scheduled evenly over a five-year period. Interest on the loan is paid in the year it is incurred.
7 Plumber's main product is backed by warranty. Sales of this product for the year totalled $445 000. The opening balance of provision for warranty claims was $10 600. During the year, Plumber's warranty expense was $31 700 and claims paid to customers totalled $25 200.

For each item, indicate the account and the amount to be included as a current liability on Plumber's balance sheet.

PRACTICE PROBLEM D

Provisions

Balmer Ltd started the year with a long service leave (LSL) liability of $42 000 for its long-term employees. During the year, employees accrued LSL entitlements with a present value of $147 600 and the company paid $157 400 to employees for LSL taken during the year. Calculate the amount of the LSL expense for the year and the LSL liability at the end of the year.

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1. Define a liability.
2. List four categories of liabilities.
3. Explain the relationship between liabilities and expenses. Provide five examples where they both increase at the same time.
4. Why is the distinction between current and noncurrent liabilities important?
5. Why are each of the following items classified as liabilities: provision for warranty, provision for long service leave, unearned revenue, GST payable and income tax deductions due?
6. Why are some liabilities interest-bearing and others are not?
7. What is the difference between a payable and a provision?
8. What are examples of provisions?
9. Provide examples of provisions for employee entitlements.
10. Explain the difference between a liability and a contingent liability.
11. Explain why contingent liabilities do not appear on the balance sheet. Give two examples of a contingent liability.
12. Provide an example of an instance where a lawsuit would be classified as (a) a liability or (b) a contingent liability.
13. Why might companies use off balance sheet financing?
14. What is the difference, if any, between liabilities and legally enforceable debts?
15. Warranties are honoured as part of good business practice: keep your customers happy. Whether to honour a claim, and how much cost to incur, are managerial judgements that depend on how good the customer is, what the reputation effects are, and so on. Therefore, warranties are discretionary period expenses like donations. There is no accrual for future donations. Why is there an accrual for future warranty costs?
16. Employees take their long service leave years and years into the future. Whether there is any long service leave depends on whether the employee keeps working for the company and how long the employee works for the company. Therefore, long service leave costs can only be realistically determined when they are being paid in the future. Why shouldn't they be expensed then, rather than now?
17. The CEO of Redstone Ltd has just been discussing a planned new debenture issue with the financial advisers, and has come to you with some resulting accounting questions. Consider the following:

    'We are thinking of setting the interest rate on the debentures a little above current market rates, to make them more attractive. I'm told this will produce a balance sheet liability higher than the face value of the debentures. How does this happen?'

PROBLEMS

PROBLEM 11.1

Current liabilities

The following data are extracted from the accounting records of DEF Limited at 30 June 2019.

	$
Equipment	350 000
Accounts receivable	85 000
Accounts payable	35 000
Cash	12 000
Accrued salaries	7 000
Unearned revenue	10 000
Accrued interest revenue	5 000
Allowance for doubtful debts	4 000
Provision for holiday pay	8 000
Accumulated depreciation	50 000
Sales	200 000
Cost of sales	80 000
Depreciation	20 000
Other operating expenses	60 000

What is the balance of current liabilities at 30 June 2019?

PROBLEM 11.2

Recording and reporting current liabilities

Auburn Company completed the following transactions during 2018–19. The annual accounting period ends 30 June 2019.

- a Purchased inventory on credit at cost of $16 800; perpetual inventory system is used.
- b Received a customer deposit of $18 000 from LPQ Ltd for services to be rendered in the future.
- c Borrowed $900 000 from the bank on 1 March 2019 by giving the bank a six-month, 9 per cent interest-bearing note payable.
- d Performed $8000 of the services paid for by LPQ; the rest will be rendered in August 2019.
- e Received the electricity bill for $24 200, which will be paid in early July.
- f On 1 June 2019 received rent in advance of $20 600 from SFT Ltd for a three-month lease of premises from 1 June to 31 August 2019.
- g Wages accrued in the last weekly payroll amounted to $23 000 and will be paid on 5 July 2019.

Required:

1. Prepare journal entries for each of these transactions.
2. Prepare all adjusting entries required on 30 June 2019.

PROBLEM 11.3

Identifying current liabilities

	2019 $m	2018 $m
Current liabilities		
Payables*	1 738	1 750
Revenue received in advance*	3 067	3 167
Interest-bearing liabilities*	577	630
Other financial liabilities	397	242
Provisions*	456	448
Liabilities classified as held for sale	–	4
Total current liabilities	6 235	6 241

Explain what is likely to be included in each of the items marked with an asterisk (*). Hint: this company is in the airline industry.

PROBLEM 11.4

Impact on financial statements

Toby Limited borrowed $75 000 000 cash on the last day of the financial year (31 December 2019) to be paid back in six years. The money was used on the same day to reduce the company's short-term bank loans by $25 000 000 and to buy additional equipment for $50 000 000.

Calculate the changes in the following as a result of the above transactions:

1. total current assets
2. total assets
3. total current liabilities
4. working capital ratio (current assets ÷ current liabilities)
5. total shareholders' equity
6. net profit for the year ended on the day of the borrowing.

PROBLEM 11.5

Recognition of liabilities

State whether the following would be recognised as a liability. If so, what account name would you use?

1. The company has a legal obligation via contract to repair any deficiencies occurring in the first two years in the buildings it constructs.
2. The company has no legal obligation but as a matter of course it repairs any deficiencies occurring in the first two years in the buildings it constructs. This policy has helped it retain a good reputation in the industry.
3. Based on the preliminary financial results the company expects to pay a bonus of $1 million to staff. The company has now paid bonuses to staff for the last 10 years.
4. At the end of the year it is calculated that staff have on average taken 13 of their 20 days of annual leave.
5. The company has signed the contract to purchase a piece of equipment worth $300 000. The equipment will be delivered to it in three weeks and will be installed in the following week.
6. The company has guaranteed a loan of $1.2 million for one of its very profitable subsidiaries.

PROBLEM 11.6

Entries for notes payable

A business issued a 60-day, 9 per cent note for $20 000 for cash. Journalise the entries to record:

1 the issuance of the note
2 the payment of the note at maturity, including interest.

PROBLEM 11.7

Entries for discounting notes payable

National Electric Lighting Ltd issues a 90-day note for $500 000 to Home Products Supply Ltd for merchandise inventory. Home Products discounts the note at 10 per cent.

1 Journalise National Electric's entries to record:
   a the issuance of the note
   b the payment of the note at maturity.
2 Journalise Home Products' entries to record:
   a the receipt of the note
   b the receipt of the payment of the note at maturity.

PROBLEM 11.8

Bond discount or premium calculations

Here are three cases related to issuance of bonds.

- A Ltd issued 10 000 $100 bonds and received $97.50 cash for each.
- B Ltd planned to issue 10 000 $100 bonds but found that the planned interest rate of 7 per cent was lower than market rates, and so received $915 000 for them.
- C Ltd issued 10 000 $100 bonds for a premium of 5 per cent on face value.

For each case:

1 Calculate the amount of any discount or premium on issue of the bonds.
2 Record the issue of the bonds.
3 State whether interest expense over the life of the bonds will be higher, lower or the same as the cash interest paid on the bond each year.

PROBLEM 11.9

Borrowings

1 Tweedsmuir Land Ltd has a substantial mortgage debt. The debt was $13 499 276 at the beginning of this year. Mortgage payments of $3 888 541 were made during the year and the mortgage balance was $10 851 299 at the end of the year. No new borrowing was made this year. Next year, the payments required total $4 105 640 and, if there is no new borrowing, the mortgage balance will be $7 742 879 at the end of next year. Calculate:
   a interest expense for this year
   b current portion of the mortgage liability at the end of this year
   c noncurrent mortgage liability at the end of this year.
2 Yoho Portals Ltd issued $1000 first-mortgage bonds that have a total face value of $40 million and carry a 7.2 per cent interest rate. They were not well received by the bond market, so Yoho received only $37 657 420 for them.
   a Record the bond issue.
   b Calculate the balance sheet liability for the bonds, as of the issue date.
3 Regarding question 2, will Yoho's interest expenses for the bonds be more or less than 7.2 per cent times the face value ($2 880 000)? Why?

PROBLEM 11.10

Analysis of leave provisions

An extract from an annual report is provided here.

Note 2. Schedule of leave entitlements						
	Recreation leave		Extended leave		Total provisions	
	2019 $	2018 $	2019 $	2018 $	2019 $	2018 $
Balance 1 July	98 515	105 771	274 855	244 172	373 370	349 943
Paid during year	51 315	86 751	830	21 350	52 145	108 101
	47 200	19 020	274 025	222 822	321 225	241 842
Provided during year	67 875	79 495	51 884	52 033	119 759	131 528
Liability 30 June	115 075	98 515	325 909	274 855	440 984	373 370
Current	115 075	98 515	310 847	267 120	425 922	365 635
Noncurrent	–	–	15 062	7 735	15 062	7 735
Total liability	115 075	98 515	325 909	274 855	440 984	373 370

1 What do you think recreation leave and extended leave are likely to include?
2 What was the opening balance of recreation leave as at 1 July 2018?
3 By dollar value, did the staff take more recreation leave or extended leave in 2019?
4 By dollar value, did the staff accrue (become entitled to) more recreation leave or extended leave in 2019?
5 Why has the extended leave provision increased by $51 054 from 2018 to 2019?

PROBLEM 11.11

Provisions

Should a provision be recognised in the following situations?

1 A furnace has a lining that needs to be replaced every five years for technical reasons. At the reporting date, the lining has been in use for three years.
2 An airline is required by law to overhaul its aircraft once every three years.
3 Under new legislation, an entity is required to fit smoke filters to its factories by 31 December 2018, and entities that do not comply will be fined or required to pay penalties. As at 30 June 2018, the entity has not fitted the smoke filters. Should a provision be recognised at 30 June 2018 and 30 June 2019?

PROBLEM 11.12

Provisions

The hoarding of annual leave by staff can lead to large liabilities on the balance sheet and ineffective staff.

1 Explain how staff not taking annual leave can lead to liabilities on the balance sheet.
2 Some organisations force staff to take all of their annual leave for health reasons, but also to improve the financial statements. What impact would this action have on the:
   a income statement?
   b balance sheet?
   c statement of cash flows?

   Assume that no additional staff are hired to replace them while on leave.

PROBLEM 11.13

Accrual product warranty

Precision Audio Company warrants its products for one year. The estimated product warranty is 3 per cent of sales. Assume that sales were $600 000 for January. In February, a customer received warranty repairs requiring $310 worth of parts and $460 worth of labour.

1 Journalise the adjusting entry required at 31 January, the end of the first month of the current year, to record the accrued product warranty.
2 Journalise the entry to record the warranty work provided in February.

PROBLEM 11.14

Accrued product warranty

During a recent year, Motorella Ltd had sales of $29 398 million. An analysis of Motorella's product warranty payable account for the year was as follows:

	$m
Product warranty payable, January 1	337
Product warranty expense	226
Warranty claims paid	(230)
Product warranty payable, December 31	$ 333

1 Determine the product warranty expense as a percentage of sales.
2 Record the adjusting entry for the product warranty expense for the year.

PROBLEM 11.15

Liabilities in financial statements

Notes 13 and 14 for the financial statements of Emm Limited are shown below.

Note 13. Creditors and borrowings	Consolidated	
	2019 $000	2018 $000
Current		
Trade creditors and accruals	231 473	217 868
Loans – unsecured	547	–
Bank loans – unsecured	72 804	64 262
Amounts owing to controlled entities	–	–
	304 824	282 130
Noncurrent		
Promissory notes	150 000	115 000
Loans – unsecured	1 160	20 970
Bank loans – unsecured	305 437	150 000
	–	–
	456 597	285 970

Note 14. Provisions	2019 $000	2018 $000
Current		
Self-insurance	6 048	5 041
Employee leave entitlements	31 006	30 779
Warranty and service on goods sold	8 404	6 962
Dividends (Note 16)	28 691	37 559
Income tax (Note 4B)	5 566	24 606
	79 715	104 947
Noncurrent		
Self-insurance	250	250
Employer leave entitlements	41 613	36 110
Warranty and service of goods sold	961	708
	42 824	37 068

1 Provide examples of trade creditors and accruals.

2 Assume that there are no new loans (unsecured) during the year. What journal entries would have been made during the year?

3 The bank loan of $150 million in 2019 is repayable during 2020. What journal entry would be made with respect to long-term unsecured bank loans during the year?

4 Assume that a total of $6 million was paid in warranty costs during 2019. What was the warranty expense for 2019?

5 What would be included in the provision for employee leave entitlements? Why is it both a current and a noncurrent liability? What journal entry is made to increase this amount?

PROBLEM 11.16

Current and noncurrent liability calculations

Consider the following:

a John Ltd's mortgage of $842 500 requires payments of $11 200 each month. During the next year the interest component of the payments will equal $61 232.

b Frieda Ltd's mortgage of $232 200 requires payments of $60 000 over the next year. By the end of next year the principal due on the mortgage will have gone down to $189 400.

c Graham Ltd's $87 436 mortgage requires monthly payments of $1500 plus interest. During the next year payments will total $25 674.

In each case, calculate:

1 current liability at the end of this year

2 noncurrent liability at the end of this year

3 interest expense for the next year.

PROBLEM 11.17

Liabilities and contingent liabilities

For each of the following situations, determine whether the company should (a) report a liability on the balance sheet, (b) disclose contingent liability or (c) not report the situation. Justify and explain your conclusions.

1 A car manufacturer introduces a new model. Past experience indicates that there will be some warranty expenses but because the design of the car is so different from anything previously on the market the amount of the warranties cannot be reasonably estimated.

2 An employee has suggested that one of the company's best-selling products may infringe on another company's patent. If the other company discovers the infringement and files a lawsuit, the company could lose millions.

3 A company has polluted a river during the land development for a new construction project. Under environmental laws, clean-up action is required upon the completion of the project. The development project will take six to 10 years to complete. Current estimation of the cost to clean up the river amounts to $2–3 million.
4 The court announced a decision on a product liability lawsuit and found that the company is liable for $1 million. Management plans to appeal and believes that it will win. However, legal advice suggests that the chance of winning is minimal.
5 A key customer has complained about the quality of a major construction project and has a claim for compensation. While you believe the claim is unreasonable, to maintain the goodwill and reputation, the company has decided to make $250 000 in repairs next year without charge.
6 A company is being sued for a loss caused by a faulty product. However, while there is agreement that the product is the cause of the loss, all legal parties involved disagree about the dollar amount that was caused by the loss.

PROBLEM 11.18

Contingent liabilities

Several months ago, Endurance Battery Company experienced a hazardous materials spill at one of its plants. As a result, the state Environmental Protection Agency (EPA) fined the company $170 000. The company is contesting the fine. In addition, an employee is seeking $500 000 damages related to the spill. Last, but not least, a home owner has sued the company for $120 000. The home owner lives 40 kilometres from the plant, but believes that the incident has reduced the home's resale value by $120 000.

Endurance Battery's legal counsel believes that it is probable that the EPA fine will stand. In addition, counsel indicates that an out-of-court settlement of $250 000 has recently been reached with the employee. The final papers will be signed next week. Counsel believes that the home owner's case is much weaker, and will be decided in favour of Endurance Battery. Other litigation related to the spill is possible, but the damage amounts are uncertain.

1 What liability would be shown in the balance sheet? Show the journal entry.
2 Prepare a footnote disclosure relating to this incident.

PROBLEM 11.19

Contingent liabilities

The following footnote is to be included in the financial statements of PQ Ltd.

> The company is being sued by X Ltd for the company's alleged wilful and deliberate violation of a patent. The suit seeks unspecified monetary damages as well as an injunction against the company's operations. It also seeks damages and lawyers' fees and costs. The company believes that it has meritorious defences against this suit and intends to vigorously defend itself. The company could be forced to incur material expenses during this defence and in the event it were to lose this suit, its business would be harmed.

Should a liability be recorded by PQ Ltd for this contingent liability? Why, or why not?

PROBLEM 11.20

GST reporting

ABC Ltd undertakes consulting services for sustainability issues. The company is registered for GST and accounts for GST on a cash basis. During June 2019 ABC Ltd recorded these transactions:

10 June	Received $6000 + GST for consulting on energy usage
18 June	Received $3850 (including GST) for consulting on workplace injury reduction
22 June	Purchased computer equipment for use in the ABC business. The cost of equipment was $2000 + GST.

How much GST is payable by ABC for the month of June?

PROBLEM 11.21

GST reporting

Tony Cheng recently opened a restaurant in Hobart serving Asian Creole food, as well as exporting its own brand of spice mixture. The business is registered for GST, and accounts for GST on an accrual basis using a monthly tax period.

Summarised below are the events that need to be considered in preparing the Business Activity Statement for June 2019:

1 On 2 June, a grinding machine was acquired for $1100 (including GST). It is estimated that 85 per cent of the grinder's usage will be for the restaurant business and the rest to make spice mixture for export.
2 Fresh food was purchased for $65 000 (GST free).
3 Invoices for other purchases totalled $9900. At the end of the month, inventory to the value of $230 was still in store and Cheng still owed $2475.
4 Cash sales in the restaurant were $264 000, including GST.
5 Credit sales of spice mixture totalled $13 500, of which only $12 000 was collected during the month.
6 The restaurant owner estimates that 5 per cent of all acquisitions are for private use.

Determine the following items for Tony Cheng's Business Activity Statement for the month of June:

	$
GST on sales	
less input tax credit	
GST to pay	

CASES

CASE 11A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 How are Woolworths' current and noncurrent liabilities described on the face of the balance sheet? What are the main liabilities?
2 What is included in contingent liabilities?
3 Did Woolworths borrow more money from the bank during the year?
4 What do employee entitlements include?

CASE 11B Determining financial statement effects of various liabilities

Nadoc Limited

Nadoc designs and manufactures a diversified product range for the international high-frequency radio, satellite and metal detection markets. The 2019 annual report for Nadoc contained the following note:

Warranty

A provision is made for the group's estimated liability on all products sold and still under warranty, and includes claims already received. The estimate is based on the group's warranty experience over previous years.

20. Provisions	2019 $000	2018 $000
Current		
Employee benefits	2 592	2 637
Warranty repairs	2 846	2 496
	5 438	5 133
Noncurrent		
Employee benefits	3 476	3 451
Reconciliation of warranty provisions		
Carrying amount at beginning of year	2 496	1 551
Provisions made during the year	1 860	2 293
Payments made during the year	(1 510)	(1 348)
	2 846	2 496

1 Explain what would be included in the warranty repairs liability and how it would be calculated.
2 Why has the liability increased?
3 Explain what would be included in the employee benefits liability and how it would be calculated.

CASE 11C Determining financial statement effects of various liabilities

1 Shown below is the note from BlueScope Steel Limited at 30 June 2017 showing current provisions and detailed descriptions of some provisions as noted.

BlueScope Steel Limited Notes to the Consolidated Financial Statements 30 June 2017	Consolidated 2017 Current $m	 2016 Current $m
Annual leave (d) (i)	71.2	75.1
Long service leave (d) (i)	120.7	122.2
Redundancy (d) (ii)	4.6	13.3
Other employee benefits (d) (iii)	145.1	74.1
Restructure (e)	15.5	21.9
Product claims (f)	21.5	31.2
Workers compensation (g)	11.3	13.6
Restoration and rehabilitation (h)	8.8	7.7
Carbon emissions (i)	7.0	3.6
Other provisions	13.3	16.4
Total provisions	419.0	379.1

(d) Employee benefits

(i) Annual leave and long service leave

The liability for annual leave and long service leave expected to be settled after 12 months is measured as the present value of expected future payments to be made in respect of services provided by employees up to the end of the reporting period. Consideration is given to expected future wage and salary levels, experience of employee departures and periods of service. Expected future payments are discounted using interest rates on high quality corporate bonds other than New Zealand where Government bonds are used, with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows.

Amounts not expected to be settled within 12 months for current leave provisions

The current provision for long service leave includes all unconditional entitlements where employees have completed the required period of service. The entire annual leave amount and vested portion of long service leave are presented as current. Since the Group does not have an unconditional right to defer settlement, based on past experience, the Group does not expect all employees to take the full amount of accrued annual leave and long service leave or require payment within the next 12 months. Current annual leave and long service leave obligation expected to be settled after 12 months is $112.9M (2016: $94.1M).

(ii) Termination benefits

Liabilities for termination benefits, not in connection with a business combination or the closure of an operation, are recognised when the Group is demonstrably committed to either terminating the employment of current employees according to a formal plan without possibility of withdrawal, or providing termination benefits as a result of an offer made to encourage voluntary redundancy. Benefits falling due more than 12 months after the end of the reporting period are discounted to present value.

(iii) Short Term Incentive plans (STI)

The Group recognises a liability and an expense for STI plan payments made to employees. The Group recognises a provision where past practice and current performance indicates that a probable constructive obligation exists.

(e) Restructuring costs

Liabilities arising directly from undertaking a restructuring program, defined as the closure of an operating site, are recognised when a detailed plan of the restructuring activity has been developed and implementation of the restructuring program as planned has commenced, by either entering into contracts to undertake the restructuring activities or making a detailed announcement such that affected parties are in no doubt the restructuring program will proceed.

(f) Product claims

Provision for claims is based on modelled data combining sales volumes with past experiences of repair and replacement levels in conjunction with any specifically identified product faults.

(g) Workers' compensation

In Australia and North America, the Company is a registered self-insurer for workers compensation. Provisions are recognised based on calculations performed by an external actuary in relation to the expectation of future events. A contingent liability exists in relation to guarantees given to various state workers compensation authorities, due to self-insurance prerequisites.

(h) Restoration and rehabilitation

The balance of the provision relates to leased sites that require rectification and restoration work at the end of their respective lease periods.

Recognising restoration, remediation and rehabilitation provisions requires assumptions to be made as to the application of environmental legislation, site closure dates, available technologies and engineering cost estimates. These uncertainties may result in future actual expenditure differing from the amounts currently provided.

(i) Carbon emissions

The Group is a participant in the New Zealand Government's uncapped Emissions Trading Scheme (ETS).

The emissions liability is recognised as a provision for carbon and is measured at the carrying amount of Emission Units (EUs) held with excess units, if any, held for trading measured at the current market value of EUs.

BlueScope Steel Limited, *Annual Report 2016/17*, pp. 20–21.

State how each of the following fits the definition of a liability:
1 provision for employee benefits
2 provision for restructure
3 provision for product claims
4 provision for workers' compensation
5 provision for restoration and rehabilitation
6 provision for carbon emissions.

CASE 11D Current versus noncurrent liabilities

In an important legal case, the Australian Securities and Investments Commission successfully sued the directors and the Chief Financial Officer of Centro for failing to discharge their duties with due care and diligence in relation to approving the financial reports for three property trusts – Centro Properties Ltd, Centro Property Trust and Centro Retail Trust – for the year ended 30 June 2007.

ASIC alleged that the financial reports contained material misstatements, in particular that approximately A$1.5 billion of interest-bearing liabilities were wrongly classified as noncurrent liabilities, rather than current liabilities.[3]

1 What difference does it make whether the $1.5 billion is disclosed as a current or noncurrent liability?
2 Do you believe it should be part of the directors' statutory obligations to ensure financial statements are not materially misstated?

HOW'S YOUR UNDERSTANDING SOLUTIONS

11A (i) Yes (accounts payable)
(ii) Yes (accrued wages)
(iii) No
(iv) Yes (provision for employee entitlements)
(v) Yes (unearned revenue)

11B It is important to get the current liabilities measured properly because the total current liabilities are part of the calculation of ratios such as working capital, current ratio and quick ratio, which are important for assessing the liquidity of a company.

11C (i) 9% × 260 000 = 23 400
(ii) 7400 + 23 400 − 14 032 = 16 768

11D (i) No liability
(ii) Accounts payable but not a provision
(iii) Provision for warranty
(iv) Provision for employee entitlements

11E (i) It is not probable that the future sacrifice of economic benefits will be required. Also the amount cannot be measured reliably. The existence of the liability will only be confirmed by the occurrence or non-occurrence of one or more uncertain events (e.g. court hearing) not wholly within the control of the entity.
(ii) It makes the investor aware of potential liabilities and expenses.

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1 Estimated expense = $78 500 + $62 000 = $140 500
Liability = $50 000 + $140 500 − ($84 000 + $78 000) = $28 500

2

DR	Warranty expense	$140 500	
CR	Provision for warranty		$140 500
DR	Provision for warranty	$162 000	
CR	Inventory		$78 000
CR	Cash (or Wages payable)		$84 000

PRACTICE PROBLEM B

6 Apr	DR	Cash	4 400	
	CR	GST payable		400
	CR	Consulting revenue		4 000
8 Apr	DR	Cash	4 950	
	CR	GST payable		450
	CR	Consulting revenue		4 500
15 Apr	DR	GST payable	256	
	CR	Cash		256

PRACTICE PROBLEM C

		$
1	Accrued salaries: 10 000 + 630 000 − 600 000	40 000
2	Bill payable	48 000
	Interest payable ($48 000 × 2/12 × 12/100)	960
3	Unearned rental revenue (1.5/3 × $6000)	3 000
4	GST payable ($212 000 × 10%)	21 200
5	Electricity payable	40 000
6	Portion of long-term debt due within 1 year (110 000/5)	22 000
7	Provision for warranties	17 100

Provision for warranties			
	$		$
Cash payments	25 200	Opening balance	10 600
		Expense	31 700
		Balance	17 100

PRACTICE PROBLEM D

Expense = $147 600. Liability = $42 000 + $147 600 − $157 400 = $32 200

COURSEMATE EXPRESS

WEBSITE RESOURCES

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APPENDIX TO CHAPTER 11

Future cash flows: present value analysis

A11.1 Future cash flows

An important way of thinking about future cash flows is present value (PV) or discounted cash flow (DCF) analysis. Future cash flows are not the same as present ones, because you have to wait for them. Because you have to wait, you lose interest or other returns you could have earned if you had had the cash sooner.

Detailed PV or DCF techniques are examined in management accounting and finance courses, and you may well have seen them already in economics or business statistics courses. In this section, the basic ideas will be outlined to help you understand the valuation of liabilities, to prepare you for the financial analysis to follow in Chapter 15, and to help you think about how traders in capital markets may use expectations of future cash flows and future interest rates when deciding on prices of securities.

Interest and the time value of money

In Western society, it is permissible – even expected – that the owner of capital should charge a person who wants to use that capital a fee for that use. The fee is called interest, and is computed by applying a specified percentage rate to the amount lent, which can be referred to as either the investment or the principal. For example, an 8 per cent interest rate on a \$200 loan would produce annual interest of \$16 (\$200 × 0.08). The existence of interest, which builds up as time passes, gives money a time value.

Here are some simple formulas you probably already know (P = principal or investment; i = interest rate):

$$\textbf{Annual interest} = P \times i$$

$$\textbf{Amount due at the end of one year} = P(1+i)$$

$$\textbf{Amount due after } n \textbf{ years; with annual compounding, if no payments at all are made} = P(1+i)^n$$

Suppose a loan provides for repayment of the principal plus interest after several years, with no payments in the meantime. If the interest is compounded, which is normally the case, that means interest builds up on the unpaid interest as well as on the unpaid principal. In order to know how this works, you need to know how frequently interest compounds. Do you get interest on the interest:

- as soon as any interest arises (continuous compounding)?
- after a day's interest has been added (daily compounding)?
- after a month's interest has been added (monthly compounding)?
- only after a year's interest has been added (annual compounding)?

Here's an example of annual compounding. We have the same \$200, 8 per cent loan as above, which is to be repaid in five years with annual compounding. We can then calculate the amount that the loan has built up to at the end of each year (its future value; FV below) as follows:

Year	FV at beginning of year $	Annual interest at 8 per cent $	FV at end of year $
1	200.00	16.00	216.00
2	216.00	17.28	233.28
3	233.28	18.66	251.94
4	251.94	20.16	272.10
5	272.10	21.77	293.87

You can see that the FV increases every year. Using the third formula above, we can calculate the FV at the end of any year:

$$\begin{aligned}\text{End of year 3 : FV} &= P(1+i)^n \\ &= \$200(1+0.08)^3 \\ &= \$251.94 \\ \text{End of year 5 : FV} &= \$200(1+0.08)^5 \\ &= \$293.87\end{aligned}$$

A11.2 Interest and present value

The concept of interest can be 'turned on its head' by considering what you lose by waiting some period of time for your money, or, putting it another way, what a future payment is worth in present terms if you assume your money should earn interest between now and when you get it back.

Suppose someone promises to give you \$100 a year from now. If you were given the money now instead, you'd be earning 9 per cent interest on it. Therefore, if you'd had some amount of P now and earned 9 per cent on it, you'd be in the same position as you will be after waiting the year. Using the second formula above, \$100 = P(1 + 0.09), where P is the amount you could have earned interest on.

Solving for P we get P = \$100/(1.09) = \$91.74. If you had \$91.74, you could have invested it at 9 per cent and ended up with \$100 (\$91.74 + [0.09 × \$91.74] = \$100) at the end of the year.

We say that \$91.74 is the present value of \$100 received after waiting one year, 'discounted at 9 per cent'. This present value concept is another way of thinking of the time value of money: it reminds us that as long as we wait for cash that could have earned interest, we lose the interest that we could have earned. This idea is referred to as an opportunity cost, which you may recall from introductory economics. As long as the interest rate is greater than zero, present value is less than the actual future amount of cash that will be received.

Analogous to the above interest formulas are the following present value formulas (where C = future cash flow, and i = interest rate):

$$\text{Present value waiting one year} = \frac{C}{1+i}$$

$$\text{Present value waiting } n \text{ years with no payments in the meantime,}$$
$$\text{interest compounded annually} = \frac{C}{(1+i)^n}$$

$$\text{Combining these two, present value of a constant cash payment over } n \text{ years,}$$
$$\text{interest compounded annually} = \frac{C}{i}\left(1 - \frac{1}{(1-i)^n}\right)$$

Therefore, the present value of $1000 received three years from now, discounted at an opportunity cost interest rate of 12 per cent, would be $711.78; that is, $1000 divided by $(1.12)^3$. The phrase 'opportunity cost' is often used because, by waiting three years for the $1000, you lose the *opportunity* to invest your money at 12 per cent in the meantime.

Here's an example of present value calculations. A company is considering an investment that will cost $10 000 and will return $2400 at the end of each year for five years. This looks good: 24 per cent of the investment cost received each year, a total of $12 000 back on the $10 000 invested. To make the investment, the company will have to borrow at an interest rate of 7 per cent. Should it go ahead with the investment?

Before we do the calculations, note three things about problems like this:

- What we are trying to determine is if the money coming in is equivalent to a cost of capital of 7 per cent. If the company has to raise its money at 7 per cent, it will want the investments it makes to return at least that. A greater rate of return would be desirable, otherwise there would be little point in investing, but 7 per cent is the minimum acceptable return.
- The idea of present value analysis is to take the future returns and subtract the 7 per cent that the company has to pay on its borrowing, to determine if, after considering the borrowing cost, the returns equal the $10 000 that has to be invested. *Is the present value of the future cash flows equal to the present cost outlay that has to be made to get those flows?*
- The 24 per cent quoted above is irrelevant to the analysis. It compares the annual return to the investment cost, but it does not consider the interest cost of waiting several years for some of that return. The whole idea of present value analysis is to build that interest cost, the time value of money, into the analysis.

Here's the present value analysis:

- Using the second present value formula above:

	$
PV of first year's return is $\$2400/(1.07)^1$	2 242.99
PV of second year's return is $\$2400/(1.07)^2$	2 096.25
PV of third year's return is $\$2400/(1.07)^3$	1 959.11
PV of fourth year's return is $\$2400/(1.07)^4$	1 830.95
PV of fifth year's return is $\$2400/(1.07)^5$	1 711.17
Total PV	9 840.47

- Since the annual flows are constant, the third present value formula above could have been used instead:

$$PV = (\$2400/0.07)(1 - [1/1.07]^5) = \$9840.48$$

This is the same answer as could have been obtained using the second present value formula. We can draw the needed conclusion from this, and also see the effects of waiting for returns:

- The conclusion is that the investment is not a good idea. It will cost $10 000, but after calculating the interest cost of waiting for the money to be returned, the present value of the $12 000 returned is only $9840. Therefore, the investment is returning less than the 7 per cent rate the company has to pay to finance it. It's close, but still not attractive.
- From the annual calculations above, you can see that the present value of the $2400 is smaller the longer we wait for it. The $2400 received after one year has a PV of $2243, but the $2400 received after four years has a PV of $1831. This is a necessary result: the longer the wait, the lower the PV, because the greater is the amount of interest assumed included in the cash flow and, therefore, the lower is the residual PV.

Some present value examples

As you saw in the example above, the concept of present value is very useful in evaluating investment possibilities ahead of time. Here are some more examples.

- Suppose you are offered the chance to invest $2000 in a project that will pay you back $4500 after six years. Is it a good deal? Suppose, alternatively, you could invest your $2000 at 11 per cent. The present value of the $4500 in six years is $\$4500/(1 + 0.11)^6$, or $2406. Therefore, the present value of what you'll get ($2406) exceeds your cost ($2000), and it does seem a good deal.
- Usually, in modern financial arrangements, blended payments are made to cover the specified interest plus some payment on the principal. House mortgages and car loans are two common examples. In such cases, to understand what is going on, we have to separate the return on investment (the interest) from the return of investment (repayment of the principal).

Here is an example: a loan of $7998, carrying an interest rate of 10 per cent, is being repaid by a blended annual payment of $2110, which is made at the end of each year. This will cover all interest, and pay off the principal as well, in five years. In such a case, the interest amount gets smaller every year because the principal balance is falling, but the rate of return on investment is a constant 10 per cent.

Date	Total blended payment $	Return on investment (interest) $	Residual paid on principal $	Principal balance $
Loan date				7 998
1 year later	2 110	800*	1 310	6 688
2 years later	2 110	669	1 441	5 247
3 years later	2 110	525	1 585	3 662
4 years later	2 110	366	1 744	1 918
5 years later	2 110	192	1 918	0
	10 550	2 552	7 998	

*800 = $7998 × 0.10; $669 = $6688 × 0.10; and so on

Using this example, the present value of $2110 paid every year for five years, discounted at 10 per cent, compounded annually, is $7998. This is $(\$2110/0.10)\ (1 - 1/[1.10]^5)$: check it and see.

NOTES

1 We gratefully acknowledge that sections of this chapter were written by Professor Gerry Gallery, Queensland University of Technology.

2 This section is adapted from Warren, C., Reeve, J. and Fess, P., *Accounting*, Thomson Learning, South Western College Publishing, Cincinnati, 2002.

3 More information about the Centro case is available at https://theconversation.com/centro-fortescue-actions-all-part-of-a-high-stakes-game-for-asic-1414

12 Investments and shareholders' equity

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 provide the accounting entries for both short-term and long-term investments (12.1)

LO2 compare balance sheet and income statement effects of using the cost versus equity method (12.1)

LO3 interpret a set of financial statements that include both equity and consolidated accounting information (12.2, 12.8)

LO4 explain the components of the shareholders' equity section of a balance sheet (12.3)

LO5 prepare the accounting entries for changes in shareholders' equity (12.4)

LO6 explain the meaning of reserves (12.5)

LO7 prepare the accounting entries for dividends and show the effect on retained profits (12.6)

LO8 prepare the accounting entries for bonus issues and other items affecting shareholders' equity (12.7).

CHAPTER OVERVIEW

The first major purpose of this chapter is to complete your understanding of the balance sheet by providing you with an introductory discussion of accounting for two other sections of the balance sheet, a company's investments (an asset) and shareholders' equity (share capital, reserves and retained profits). While investments are included in the asset section of the balance sheet, certain types of investments need to be consolidated (see section 12.2) with the whole balance sheet and, therefore, also have an impact on the liabilities and shareholders' equity sections of the balance sheet. One complex arrangement is corporate groups that are created by the growth of a single company, or by business combinations, into a group of companies. Other arrangements include the acquisition of one company by another, and the merger of companies. Accounting for corporate groups also has a significant impact on profit measurement and on the asset section of the balance sheet, and therefore could have been covered earlier. It is an example of an accounting method that is very complex in practice, but has principles that are understandable without the practical complexities. It is also part of the goal of understanding a corporate set of financial statements because, as we saw in Chapter 2, most are consolidated, portraying corporate groups.

The other key purpose of this chapter is to cover the shareholders' equity section of the balance sheet. In Chapter 11, we considered liabilities; here we consider the other main component of the shareholders' equity part of the balance sheet. Most of the sections in this chapter are not detailed, for two reasons: we have encountered many of the issues already when considering assets and accrual accounting, and the accounting practices for many equity items are very complex – beyond what this introductory book can sensibly cover.

Overall, the objectives of this chapter are to set out some important principles about investments and shareholders' equity accounting that will provide a general understanding of topics that are covered more fully in advanced accounting courses. The goal is to help you understand what you see on a typical corporate balance sheet and in its accompanying notes.

12.1 Intercorporate investments and corporate groups

LO1 LO2 Modern business organisations, especially large ones, are often groups of separately incorporated companies. You will have heard terms like 'takeover', 'parent' and 'subsidiary': these all come from the phenomenon of grouping corporations together. Lend Lease Corporation, National Australia Bank, Wesfarmers, BHP and Rio Tinto are examples of organisations that are actually made up of several, even hundreds, of companies. Such groups are linked in many ways, including being linked by:

- formal ownership of all or parts of each member by one or more of the group; for example, Wesfarmers owns Coles Supermarkets, Bunnings, Officeworks, Target and Kmart
- internal patterns of performance reporting, motivation and promotion that encourage managers and other employees to feel part of the larger group; for example, the general manager of one company may have been promoted from another company in the group and may be promoted to yet another, if he or she does well in one of the operations.

Most of the financial statements included in published annual reports are consolidated; that is, they are really those of groups of companies. Accounting for corporate groups is a complicated part of financial accounting, and is covered in detail in advanced courses. This book only introduces you to the main principles behind it, and shows you how to apply the principles to do some basic calculations. In this section, we cover where one company buys shares in another with the intention of holding these investments short term and in the long term.

Short-term investments

Short-term investments are securities that management intends to hold for less than one year. These investments are held primarily to put extra cash to work. They include shares, commercial paper (such as notes issued by finance companies), government bonds and Treasury bills, short-term money market investments and term deposits in banks. Not all of these are really intercorporate investments, in that there may not be any ownership or business relationship connecting the holder of the security to the issuer.

Because there is no intention to hold such investments for long or to try to influence the operations or policies of the organisations that issued the securities, such investments are included in current assets – usually under the heading of marketable securities. The investments are valued at the lower of cost or market value (net realisable value). Recall that it is the lower of cost and market and therefore the short-term investments cannot be valued above cost. Dividends and interest from such investments are usually included in other revenue.

Wildrose Ltd has short-term investments costing $520 000. Suppose the investments' market value slipped to $484 000 on balance date. What would happen to profit, given the lower of cost or net realisable value rule? The difference, $36 000, would be included as an expense. Profit before tax would go down by $36 000. The journal entry would be:

		$	$
DR	Loss on marketable securities	36 000	
CR	Marketable securities		36 000

If the value of the investments then increased to $540 000, the value of the investments can be written up to $520 000, but not above this original cost.

Suppose, instead, that the investments' market value went up to $585 000. In this case, the market value of the security is greater than cost, but the unrealised gain is not recorded, and the marketable securities are recorded at cost.

Long-term investments

Long-term investments are investments that management does not intend to convert to cash within one year. These include both debt and equity securities. Only the latter are discussed here. Long-term investment in

shares can be accounted for using the cost method, the equity method or the consolidation method. The specific circumstances in which each are used are discussed below.

COST METHOD

Under the cost method, the investment is recorded at the cost of acquisition. For example, if a company purchases shares for $500 000, the entry would be:

		$	$
DR	Investment	500 000	
CR	Cash		500 000

When dividends of $20 000 are received on those shares, the entry is:

		$	$
DR	Cash	20 000	
CR	Dividend revenue		20 000

Consistent with the treatment of other noncurrent assets (see Chapter 10), the investment account can be revalued periodically.

HOW'S YOUR UNDERSTANDING?

12A Which of the following transactions affect the balance of investments in the balance sheet?

(i) purchase of investments

(ii) receipt of dividends on the investment

(iii) sale of investments

EQUITY METHOD

When an investing company has significant influence over, but not control of, an investee company, the investee company is an associated company of the investor. In this case, the investor, in its financial statements, accounts for the associate by using the equity method of accounting. On this basis, the investing company includes in its income statement and balance sheet its share of earnings by the investee company, because it is in a position to significantly influence that company's performance. Under the equity method:

- The investment asset is still valued initially at cost, as it was for the cost basis.
- As the investee company earns profit (or incurs losses), the asset is increased for the investing company's share of that profit (or decreased for its share of losses), and that share is included in the investing company's revenue. This is an accrual of revenue that the investing company is entitled to, so it is taking credit for its share of the investee's profit (increase in retained profits). Other revenue is credited with this share and the investment asset account is debited, so the asset account is treated like an account receivable for the accrued revenue.
- When the investee company pays a dividend, the investing company receives some of the accrued revenue as its share of the dividend, so the dividend received is deducted from the investment asset account, just as collection of an account receivable would be deducted from the account receivable asset. The dividend is not called revenue by the investing company, because the revenue has already been accrued; instead, the dividend is deducted from the investment asset because it is considered a return of some of the money invested.
- There are some other more complicated features of equity accounting we will not get into here.

Before considering an example, it should be noted that the use of the equity method requires that the investor have significant influence over the investee company. AASB 128 (paragraph 3) defines significant

influence as 'the power to participate in the financial and operating policy decisions of the investee'. This power is not control or joint control over the investee's policies. Generally, the higher the percentage shareholding an investor has, the greater the likely influence it will have. As a general rule, where an investor holds 20 per cent or more of the shares of a company, it can be presumed that the investor has significant influence over the company, unless there is evidence to the contrary.

Assume XYZ buys 30 per cent of the shares of ABC Ltd for $1 million on 1 July 2018. On 30 June 2019, ABC records an after-tax profit of $240 000, from which it pays a dividend of $90 000. The journal entries would be as follows:

2018			**$**	**$**
1 July	DR	Investments	1 000 000	
	CR	Cash		1 000 000
	To record acquisition of the investment			
2019				
1 July	DR	Investments	72 000	
	CR	Share of associated company's profits		72 000
	To equity account 30 per cent of associated company's profits			
1 July	DR	Cash	27 000	
	CR	Investments		27 000
	To record receipt of dividends			

To further clarify the differences between the cost basis and the equity basis, consider the following summary of how the two methods work (ignoring complexities, including any asset revaluations).

	Cost basis	**Equity basis**
Initial carrying value of the investor's intercorporate investment asset	Original cost	Original cost
Investor's share of profit earned by investee	Nothing done	Add to investment asset and to other revenue
Investor's share of dividend paid by investee	Add to cash and to other revenue	Add to cash and deduct from investment asset
Resulting balance sheet value of the investor's intercorporate investment asset	Original cost	Original cost plus accrued profit share minus share of dividends received by investor

Here is an example. Grand Ltd acquired investments in other companies on 1 January 2019.

1 145 000 shares (29 per cent of the voting interest) in B Ltd were purchased for $4 640 000 cash.

2 On 30 June 2019, B Ltd announced its earnings per share for the first six months of 2019 at $2.10 per share.

3 On 10 December, B Ltd paid dividends to shareholders at $1.60 per share.

4 On 31 December, B Ltd announced its earnings per share for the full year at $3.90 per share (i.e. an additional $1.80 since 30 June).

The effects of items 1 to 4 on the financial statements of Grand Ltd at the end of 2019 are as follows:

- Investment in B Ltd (cost basis):
  1. Long-term investment asset starts out at the purchase price of $4 640 000 (cash reduced by same amount).
  2. Earnings announcement is ignored for accounting purposes.
  3. Cash received and dividend revenue are recorded for $232 000 (145 000 shares × $1.60).
  4. Earnings announcement is ignored for accounting purposes.

Using the cost basis, Grand Ltd's financial statements, as at 31 December 2019, will therefore include for B Ltd:

	$
Investment in B Ltd (noncurrent asset)	4 640 000
Dividend revenue (in other revenue)	232 000

- Investment in B Ltd (equity basis):
  1. Long-term investment asset starts out at the purchase price of $4 640 000, the same as if the cost basis were used.
  2. Upon earnings announcement, both investment revenue and investment asset are increased by $304 500 (145 000 shares × $2.10).
  3. Cash is increased by, and investment asset is reduced by, $232 000 (145 000 shares × $1.60): the dividend is therefore deemed to be a return to Grand Ltd of some of its investment and this is why the investment amount is reduced.
  4. Upon earnings announcement, both investment revenue and investment asset are increased by $261 000 (145 000 shares × $1.80).

Using the equity basis, Grand Ltd's financial statements, as at 31 December 2019, will therefore include for B Ltd:

	$
Investment in B Ltd (noncurrent asset)	4 973 500
($4 640 000 + $304 500 − $232 000 + $261 000)	
Investment revenue (in other revenue in the income statement)	
($304 500 + $261 000)	565 500

HOW'S YOUR UNDERSTANDING?

12B Gretel Ltd buys a non-controlling number of Hansel Ltd shares for $460 000. During the year, Gretel receives a $45 000 dividend from Hansel. At the end of the year, Hansel reports a net profit. If Gretel's proportion of the Hansel voting shares is applied to Hansel's net profit, the resulting figure is $78 500.

(i) What revenue from its investment in Hansel will Gretel report if it is using:
  (a) the cost basis?
  (b) the equity basis?

(ii) What is the investment in Hansel asset on Gretel's books at the end of the year using:
  (a) the cost basis?
  (b) the equity basis?

12.2 Consolidations

LO3

Consolidations are generally beyond the scope of an introductory financial accounting textbook. However, before you read a set of financial statements, you need to at least understand the very basics of consolidation. Therefore, we have included a section here. We will leave it up to your instructor to decide the level of detail to cover.

Where the investor (X) has control over another entity (Y), X is referred to as a parent entity, Y is the subsidiary entity, and the combination of X and Y is called the economic entity. Control is power to govern the financial and operating policies of an entity so as to obtain benefits from its activities.

Whether an entity has control over another entity is always a matter of judgement and, accordingly, involves the application of professional skill and judgement on the part of the preparer (and auditor) of financial reports. While owning over 50 per cent of the shares of a company normally results in the investor having control, control can also exist where, for example, the investor has the capacity to dominate the composition of the board or the capacity to control the majority of votes cast at a meeting of the board of directors or at a general meeting. This may occur, for example, when an investor has less than 50 per cent

of the shares of another entity, but the ownership of the remainder of the shares is widely dispersed. Where control exists, accounting uses a technique called *consolidation* to present the parent company and all of its subsidiaries as one economic entity.

While there is a consolidated entity for accounting purposes, there is no consolidated entity for most legal purposes. Rather, it is legally a group of separate companies with connected ownership. The idea is to present the group of companies as if it were a single entity. This method is thought to represent the economic and business circumstances more faithfully than would reporting separate statements for all the legally separate companies and leaving the user to try to add them together.

Consolidation uses a simple idea: to prepare the financial statements of a group of companies, put the balance sheets and the income statements and other statements for all the companies side by side and, mostly, add them up. The consolidated cash figure will be the sum of all of the companies' cash figures, the consolidated sales figure will be the sum of their sales figures, and so on. To apply this simple idea to the complexities of modern businesses, a quite complicated set of GAAP for consolidation has arisen. In this book, the complexities will be left out in favour of a focus on four main issues in consolidation accounting:

- determining what to do if the parent company owns less than 100 per cent of the subsidiary's voting shares
- determining the asset and liability values that are to be added together
- determining any goodwill arising from the acquisition price paid by the parent
- determining consolidated profit.

Minority interests

Minority interest (also called non-controlling interest) refers to the interests of the shareholders who have shares not owned by the parent company. For example, if a company buys 80 per cent of a subsidiary's shares, the remaining 20 per cent belongs to minority interests (minority shareholders). On consolidation, all of the assets and liabilities of the subsidiary are included in the consolidated balance sheet. This provides the reader with the total assets and liabilities under the control of the parent company. The minority interest in the net assets (assets less liabilities) is shown separately in the shareholders' equity section of the balance sheet. Exhibit 12.1 shows an example of the disclosure of non-controlling interests in the consolidated financial statements of CSR Limited. It can be seen that for 2017, $51.5 million of the net assets of $1206.5 million was owned by non-controlling interests and the remainder was owned by the shareholders of CSR Limited ($1155.0 million).

EXHIBIT 12.1

CSR LTD

EXTRACT OF THE BALANCE SHEET AS AT 31 MARCH 2017

		CSR Group	
	Note	2017 $m	2016 $m
Net assets		1 206.5	1 317.2
Equity			
Issued capital	15	1 036.8	1 041.1
Reserves	17	(73.4)	20.4
Retained profits		191.6	123.2
Equity attributable to shareholders of CSR Limited		1 155.0	1 184.7
Non-controlling interests	21	51.5	132.5
Total equity		1 206.5	1 317.2

CSR Limited, *Annual Report 2017*, p. 44.

Some other points to note from Exhibit 12.1:

- net assets (i.e. assets – liabilities) equals total equity ($1206.5m)
- issued capital decreased and if you looked up Note 15 of their financial statements you would see that the company made an on-market share buyback of their own shares
- reserves decreased (these changes are quite complicated and will be left to your final year accounting subjects)
- retained profits increased by the amount that the net profit exceeded dividends paid.

Asset and liability values

The idea of consolidation is just to add the accounts together: the parent's accounts receivable are added to the subsidiary's accounts receivable, the land is added to the land, the accounts payable are added to the accounts payable, and so on. But some changes to the parent's and subsidiary's balance sheets are made before the adding together is done. One such change is that any intercompany balances are offset against each other. If S Ltd owes P Ltd $40 000, for example, that would be on S Ltd's balance sheet as an account payable and on P Ltd's balance sheet as an account receivable. If the consolidated balance sheet is to represent the two companies as if they were one entity, this $40 000 amount is an internal matter to the combined entity: it is not owed to or receivable from anyone outside the entity, so it is not like the other accounts payable and accounts receivable. Therefore, it is just left out of the consolidated figures by eliminating the intercompany receivable against the intercompany payable. (Intercompany sales and expenses, such as management fees, are also left out of the profit and loss account, and any profit made by one company in dealing with the other is left out as well. Eliminating these can be complex.) Another example is the account for the parent company's investment in the subsidiary, which is also an intercompany account, so it too is eliminated in the consolidation.

Goodwill arising on consolidation

What if P Ltd paid more for the shares of S Ltd than the sum of the fair values of S Ltd's assets minus its liabilities? This indicates that P Ltd is buying something else *not on* S Ltd's balance sheet – something in addition to all the individual parts of S Ltd. This something is called consolidated goodwill or goodwill arising on consolidation. It might represent good managers, a good location, faithful customers, economies of scale with the parent company, reduced competition, or other factors the parent company took into account in agreeing to a price for the subsidiary's shares.

$$\begin{aligned}\textbf{Goodwill asset} &= \textbf{Cost of parent's investment}\\ &- \textbf{Parent's portion of net assets (fair values of subsidiary's assets}\\ &- \textbf{fair values of its liabilities)}\end{aligned}$$

For example, if Very Big Ltd paid $1 200 000 for 80 per cent of the voting shares of Not So Big Ltd, and, at that date, Very Big evaluated Not So Big's assets to be worth $4 300 000 and its liabilities to be $3 000 000, then consolidated goodwill at date of acquisition would be $160 000 ($1 200 000 – 0.80 ($4 300 000 – $3 000 000)).

Goodwill is shown among the noncurrent assets on the consolidated balance sheet, and it is subjected to impairment testing on a similar basis to other noncurrent assets.

Consolidated income statements

Consolidated income statements are prepared by combining the revenues and expenses of the parent company and all its subsidiaries. This is done after eliminating any transactions between these entities. For example, intercompany sales and expenses, such as management fees, are left out of the consolidated income statements, and any profit made by one company in dealing with the other is also left out. Any impairment losses are also recorded. Any share of profits of the subsidiaries that belongs to non-controlling interests is also deducted.

HOW'S YOUR UNDERSTANDING?

12C Where do non-controlling interests appear in the balance sheet? What do they represent?

12D X Ltd is the parent company with sales of $1 million. Y Ltd, a subsidiary, had sales of $500 000, which included $100 000 of sales to X Ltd. What was the consolidated sales figure?

12.3 Shareholders' equity

LO4 The shareholders' equity section of the balance sheet has three main components:

- share capital
- reserves
- retained profits/accumulated losses.

Accounting standards require that each of these be disclosed separately. The purpose of keeping them separate is related to the concept of capital maintenance. Under this concept, profit is only earned after the capital of the company has been maintained. Dividends can only be paid when there are retained profits and revenue reserves to cover them; that is, they cannot be paid out of issued capital. This is to ensure that the original capital is maintained within the company, which benefits the creditors because the amount of capital (in the form of net assets) is available for repayment of the creditors.

So what does the balance of shareholders' equity represent? First, recall the basic accounting equation introduced in Chapter 1:

Assets = Liabilities + Shareholder's equity

or

Assets − Liabilities = Shareholder's equity

Shareholders' equity, therefore, represents the difference between assets and liabilities; that is, net assets. It shows how these net assets have been financed. For example, consider the following sample balance sheet:

	$
Assets	
Cash	1 000
Accounts receivable	10 000
Property, plant and equipment	89 000
Total assets	100 000
Liabilities	
Accounts payable	5 000
Total liabilities	5 000
Net assets	95 000
Shareholders' equity	
Share capital	70 000
General reserves	6 000
Retained profits	19 000
Total shareholders' equity	95 000

General reserves will be discussed in section 12.5. For now, assume that they were created by debiting retained profits and crediting general reserves. Total shareholders' equity of $95 000 indicates that net assets of $95 000 have been financed by original contributions from owners (share capital) of $70 000 and $25 000 ($19 000 + $6000) from past accumulated profits that have not been distributed in dividends.

The transfer of $6000 from retained profits to general reserves provides a signal to users that this $6000 is unlikely to be paid out in dividends in the future, although it is still legally possible to do so. Note that neither retained profits ($19 000) nor general reserves ($6000) indicate there is cash or some 'pot of gold' for this amount. In fact, in the above example you can see that cash only totals $1000.

Share capital, reserves and retained profits are now discussed in sections 12.4, 12.5 and 12.6, respectively.

12.4 Share capital

The majority of shares issued by companies are *ordinary shares*, which confer no special rights or privileges on their holders. The ordinary shareholders are the main risk-takers of companies, because they don't receive a dividend unless adequate profits are earned. There is, however, no upper limit to the rate of dividend that may be recommended by the directors if profits permit. Normally, the holders of ordinary shares have full voting rights. LO5

Preference shares confer special rights on their holders. Generally, these involve priority with respect to dividends at a prescribed rate and, in addition, the holders may enjoy preferential treatment with respect to the return of capital if the company terminates in a liquidation or winding up. Profits must be available before any dividends may be declared and, to protect the interests of preference shareholders, provision is generally made for the priority of unpaid preference dividends to accumulate from year to year until profits are adequate. Shares with this entitlement are termed cumulative preference shares. A company may also issue participating preference shares, which means that, after the fixed amount of preferred dividend is paid, preference shareholders may participate in other dividends with the ordinary shareholders if profits exceed a specified level.

Apart from some defined exceptions under the *Corporations Act 2001*, a company invites the public to subscribe for shares by issuing a *prospectus*, which contains the relevant application form. The content of the prospectus must conform with the requirements of the *Corporations Act 2001* and must contain an audit report. The prospectus is designed to inform potential shareholders, or their advisers, about the financial position of the company, its prospects and the rights attached to the securities being issued.

In its simplest form, the journal entry for the issue of 100 000 fully paid $2.50 ordinary shares would be:

		$	$
DR	Cash	250 000	
CR	Share capital		250 000

This form is appropriate where the shares are issued to an institutional investor or where the share issue is administered by an underwriter.

Public companies can also issue shares directly to the public, based on a prospectus. Assume that the above issue of 100 000 shares at $2.50 were all payable at the time of application. In this case, the payment of $250 000 must be held in a special cash trust account, since the board of directors has not yet formally resolved to issue the shares to the applicants. The journal entry would be:

		$	$
DR	Cash trust	250 000	
CR	Application		250 000
To record receipt of cash of $2.50 per share on 100 000 shares.			

Once the minimum subscription is received and the directors allot the shares to the applicants, the amount of money paid by successful applicants would be transferred from the cash trust account to the cash at bank account.

		$	$
DR	Cash at bank	250 000	
CR	Cash trust		250 000
To record the transfer of application payments into the cash at bank account			

If there had been excess application funds, the application money of the unsuccessful applicants would be refunded with the following entry:

		$	$
DR	Application	XXX	
CR	Cash trust		XXX

The last step is to transfer the balance from the application account to the share capital account, as the shareholders have now been issued with shares:

		$	$
DR	Application	250 000	
CR	Share capital		250 000

The balance sheet under shareholders' equity would show an amount of $250 000 under share capital.

For most Australian companies, the full payment for shares is required at the time of issue. As a result, for the majority of companies, the entries discussed above will be all you need to know. However, it is possible for a company to require shareholders to pay the amounts in instalments. In this case, the entries become a little more complex and are discussed below.

Assume that the conditions of the earlier share issue of 100 000 shares at $2.50 required $1.70 per share down payment with the application. On allotment, another $0.50 is due, and a further $0.30 is due when determined by the board of directors. The application money was received on 10 April. On 28 April, the shares were issued (or allotted), with the amount payable on allotment received on 10 May. On 12 July, the directors called for the remaining amount owing on the shares, which was received on 28 July. The journal entries would be as follows:

			$	$
10 Apr	DR	Cash trust	170 000	
	CR	Applications		170 000
		Cash received on application		
28 Apr	DR	Cash at bank	170 000	
	CR	Cash trust		170 000
		Transfer to cash at bank on allotment		
28 Apr	DR	Application	170 000	
	CR	Share capital		170 000
		To record the amounts due on application		
28 Apr	DR	Allotment	50 000	
	CR	Share capital		50 000
		Allotment amount of 50 cents per share		
10 May	DR	Cash at bank	50 000	
	CR	Allotment		50 000
		Allotment money received		
12 July	DR	Call	30 000	
	CR	Share capital		30 000
		Call of 30 cents per share		
28 July	DR	Cash at bank	30 000	
	CR	Call		30 000
		Receipt of call money		

The general ledger accounts would appear as follows:

Cash trust			
Application	170 000	Cash at bank	170 000

Cash at bank			
Cash trust	170 000		
Allotment	50 000		
Call	30 000		
Balance	250 000		

Share capital			
		Application	170 000
		Allotment	50 000
		Call	30 000
		Balance	250 000

Application			
Share capital	170 000	Cash trust	170 000

Allotment			
Share capital	50 000	Cash at bank	50 000

Call			
Share capital	30 000	Cash at bank	30 000

If these were the only transactions for the company, the balance sheet would appear as follows:

	$
Assets	
Cash	250 000
Shareholders' equity	
Share capital	250 000

The issue of share capital can get much more complex, and topics such as oversubscription, undersubscription, forfeiture of shares, reissue of forfeited shares and the issue of preference shares are left until later courses.

So far, we have been dealing with the issue of shares. A common practice at present is for companies to buy back their own shares. Share buybacks occur when companies have surplus cash and they use this to buy back their own shares, thus reducing the number of shares issued and the dollar amount of shareholders' equity. If they can maintain profits at approximately the same level, this action will result in increases in such ratios as return on equity and earnings per share.

The overall impact on the accounting equation of a share buyback is to decrease an asset (cash) and decrease shareholders' equity. In terms of debits and credits, the credit entry will be to cash. Companies are allowed some flexibility in which shareholders' equity account to debit. Three possibilities are share capital, retained profits and reserves. In the unlikely event that shares were bought back at the same price as they were issued, the debit entry would be to share capital. If they were bought back at a price above the issue price, a possibility would be to debit the share capital account for the amount of the issue price and debit retained profits or a reserve account for the additional amount.

12.5 Reserves

LO6 Reserves are not defined in the *Corporations Act 2001*, the Australian Accounting Standards or the Statements of Accounting Concepts of the *Framework for the Preparation and Presentation of Financial Statements*. However, nearly every annual report you pick up will have reserves included in the balance sheet category of shareholders' equity. Reserves can take many different forms, and the terminology between companies varies greatly, which is not surprising given the lack of professional guidance.

Accounting standards require the disclosure of reserves in the balance sheet and require further disclosure in the notes for each class of reserves, a description of the nature and purpose of the reserve, the amount of the reserve at the beginning of the financial year, the nature and amount of changes during the year, and the amount at the end of the financial year.

It is important to understand the nature of each type of reserve account in a company's financial statements because, under the *Corporations Act 2001*, dividends can only be paid out of profits. It is, therefore, important to know whether each reserve account is a form of accumulated profits or not. One type of reserve is based on *Corporations Act 2001* requirements; namely, capital redemption reserves created when preference shares are redeemed out of profits. These reserves cannot be used to pay a cash dividend. Other reserves may be created by the appropriation of profits and the revaluation of noncurrent assets. These would include general reserves and revaluation surpluses. Cash dividends can be paid out of general reserves. Case law indicates that cash dividends can be paid out of across-the-board revaluation of assets, but it is uncertain whether cash dividends can be paid out of a selective or partial revaluation.

Three of the more common reserves you are likely to come across are the general reserve, the revaluation surplus and the foreign currency translation reserve. The general reserve account is an amount transferred from retained profits by the entry debit retained profits (i.e. decrease in a shareholders' equity account) and credit general reserve (i.e. an increase in a shareholders' equity account). The purpose of this transfer is often to indicate to shareholders that the amount of the transfer is unlikely to be paid out in dividends and will be retained in the business. However, the directors can later decide to transfer the amount back to retained profits. As a result, the entry does not achieve a great deal, as there is no change in where funds are invested, nor are the amounts earmarked for specific future use.

Another reserve account that was discussed in Chapter 10 was the revaluation surplus (previously called the asset revaluation reserve). Recall that the entry to revalue, say, land and buildings upwards was:

		$	$
DR	Land and buildings	XXX	
CR	Revaluation surplus		XXX

A third common example of a reserve account is the foreign currency translation reserve that relates to exchange differences, which arise in translating the accounts of a self-sustaining foreign operation into domestic currency. Again, these issues are left to a more advanced accounting course.

12.6 Retained profits and dividends

LO7 Students and users of accounting reports often have problems with interpreting what a balance in retained profits means. The retained profits balance shows the amount of profits a company has made over time, less any dividends declared. So if a company had never declared any dividends, its retained profits account would equal all profits ever made since inception.

A large balance in retained profits does not mean there is a 'pot of gold' set aside for future use. Nor does it mean there is cash available to pay employee entitlements if the company fails. It simply tells you the maximum amount of dividends that can be paid in the future (assuming the company has the cash to pay the dividends).

Let's consider four companies, A, B, C and D:

	A	B	C	D
	$	$	$	$
Cash	2 000	25 000	2 000	25 000
Property, plant and equipment (PPE)	98 000	75 000	68 000	20 000
Total assets	100 000	100 000	70 000	45 000
Current liabilities	10 000	10 000	10 000	10 000
Loan	40 000	40 000	10 000	0
Retained profits	20 000	20 000	20 000	5 000
Share capital	30 000	30 000	30 000	30 000
Liabilities and SE	100 000	100 000	70 000	45 000

Each company has been in existence for five years, has issued share capital of $30 000, has current liabilities of $10 000 and earned profits of $20 000. D is the only company that has declared and paid dividends (dividends of $15 000 have been paid).

Even though the four companies have received the same cash from the issue of shares, earned the same profits and have the same current liabilities, they have used cash in very different ways. Company A has taken a growth strategy with the largest PPE and has borrowed ($40 000) to be used with cash generated through share issues and profits to buy PPE. Company B is similar except it has not grown as quickly and has higher amounts in cash but less PPE. Company C is the same as Company A, except it has borrowed $30 000 less and has $30 000 less in PPE. So note that A, B and C all have the same retained profits but they don't all have the same amount of cash to pay bills and have different levels of assets. Company D is different in that it has paid out $15 000 in dividends ($20 000 – $5000) and it has not borrowed. Consequently, it has not been in a position to obtain PPE to the same level as the other three firms.

A note outlining the changes in retained profits was shown in Chapter 2. The contents of this note can now be expanded to include a transfer to reserves and is shown below.

Retained earnings	$
Balance at start of period	X
Changes in accounting policy	X
Restated balance	X
Profit for the period	X
Total for the period	X
Dividends declared	(X)
Transfers to and from reserves	X
Balance at end of period	X

In the above example, you can see that there are four main ways in which the balance of retained profits changes:

- a profit or loss for the year (from the income statement)
- changes in accounting policies that give retroactive effect to the changes, with any resulting revenue or expense directly adjusted to retained profits; that is, instead of adjusting this year's revenue or expense, we adjust retained profit, which is where the previous year's profits are
- dividends declared during the year
- a transfer to or from a reserve, such as a general reserve or the foreign currency translation reserve – if it were a transfer to a reserve, then the reserve account would be credited and retained profits debited.

Cash dividends

Dividends may be provided for on the basis of share capital, or paid according to the number of shares held. With respect to the former, a dividend of 5 per cent could be declared, which means that 5 per cent of the share capital is paid. With respect to the latter method, the dividend is declared on the per-share basis, such as 20 cents per share, which would mean that a shareholder with 5000 shares would receive $1000.

Generally, companies have the right to make a payment of interim and final dividends. Interim dividends are usually authorised by the board of directors during the year, based on an expectation of adequate profits. When an interim dividend is declared, there is a debit to retained profits and a credit to dividends payable. When paid, dividends payable is debited and cash is credited. For example, assume XYZ Ltd declared an interim dividend on 15 January 2019 of 3 cents per share (one million issued shares) and paid it on 4 February 2019. The journal entries for the 2019 financial year would be:

			$	$
15 Jan	DR	Retained profits	30 000	
	CR	Dividends payable		30 000
		To record declaration of interim dividend		
4 Feb	DR	Dividends payable	30 000	
	CR	Cash		30 000
		To record payment of interim dividend		

Directors recommend a final dividend to be authorised by the shareholders at the annual general meeting of the company, which is held after the end of the company's financial year. Shareholders may not increase the amount beyond that recommended by directors, but may reject or reduce the recommended amount. However, they almost invariably ratify the directors' resolution. In previous years, entities recognised a liability for dividends in the balance sheet when that dividend was declared after the reporting date but before the completion of the financial statements. Because of the adoption of international accounting standards, a liability can no longer be raised at balance sheet date if the dividend is declared after that date. Dividends are now provided for in the period in which they are declared. Given that final dividends are declared after the balance sheet date but before completion of the financial report, entities now disclose final dividends in the notes as an event occurring after balance date (AASB 110 paragraphs 12 and 13).

For example, assume that XYZ Ltd, at a meeting on 1 August 2019, recommended a final dividend of 10 cents per share on its 1 million shares. The dividend is authorised by shareholders at an annual general meeting on 28 September 2019 and the direct credits for the dividend payments are lodged with the bank on 5 October 2019. The journal entry would be as follows:

2019			$	$
28 Sept	DR	Retained profits	100 000	
	CR	Dividends payable		100 000

When the final dividend is paid on 5 October, the journal entry is:

5 Oct	DR	Dividends payable	100 000	
	CR	Cash		100 000

Consider now whether the above journal entry would be any different if the board had decided to recommend the dividend on 30 June 2019. The answer is no, because the new accounting standards do not permit recognition of a dividend at the company's reporting date unless the dividend has been declared and is not subject to further approval (e.g. by shareholders at the annual general meeting).

As noted earlier, dividends can only be paid out of profits, including both this year's profit and previous years' profits. Therefore, directors must ensure that profits are legally available before they recommend a certain level of dividends. They also need to ensure that there will be adequate cash available to pay the dividend. Changes in dividends are important signals to shareholders; therefore, directors need to exercise care in determining the level of dividends each year.

HOW'S YOUR UNDERSTANDING?

12E A company declares and pays a dividend of 10 cents per share on 50 000 shares. What is the effect on each of the following?
- (i) total assets
- (ii) total liabilities
- (iii) expenses for the year
- (iv) shareholders' equity

12.7 Bonus issues and share splits

LO8

Dividends do not have to be cash dividends. Companies can also issue share dividends, which are normally called bonus issues in Australia.

Consider the case of a company that has five million fully paid ordinary shares. Assume it has the following shareholders' equity section at 1 August 2019.

	$
Shareholders' equity	
Share capital	5 000 000
Revaluation surplus	1 800 000
Retained profits	1 400 000
Total shareholders' equity	8 200 000

Assume that on 10 August, the company declares a 1:4 bonus issue out of the revaluation surplus. This means that for every four shares in existence, one additional share will be issued to shareholders at no charge. The shares were issued on 3 September. The journal entries would be as follows:

			$	$
10 Aug	DR	Bonus issue declared	1 250 000	
	CR	Bonus issue payable		1 250 000
		To record declaration of bonus issue		
10 Aug	DR	Revaluation surplus	1 250 000	
	CR	Bonus issue declared		1 250 000
		To record reduction of revaluation surplus		
3 Sept	DR	Bonus issue payable	1 250 000	
	CR	Share capital		1 250 000
		To record the increase in share capital		

The shareholders' equity section of the balance sheet before and after the bonus issue would appear as follows:

	Before bonus issue $	After bonus issue $
Shareholders' equity		
Share capital	5 000 000	6 250 000
Revaluation surplus	1 800 000	550 000
Retained profits	1 400 000	1 400 000
Total shareholders' equity	8 200 000	8 200 000

Note that total shareholders' equity has remained constant and that there has been only internal movement within the shareholders' equity section of the balance sheet. Have shareholders gained from this issue? Shareholders will only gain if the market value of the combined shares is greater than it was before the bonus issue. Total shareholders' funds have remained constant, so it is unlikely that the value of the firm has increased. If a shareholder owned 5 per cent of the company shares before the bonus issue, he or she would still own 5 per cent after the bonus issue. Thus, the share market will normally adjust the price of the shares accordingly so the total value of each shareholder's shares remains the same. However, if it is believed that the bonus issue will be accompanied by increased total dividends (e.g. when the dividend per share remains the same), the share market will incorporate this information in determining the new share price.

So why do companies make bonus issues? There are a number of potential reasons. First, they provide a return to shareholders without affecting cash. While the value of that return has been questioned above, many shareholders may perceive it to be a benefit. Second, it reduces the market price of each share, which may make the shares available to a wider range of investors. Third, it can be used to capitalise reserves; that is, turn them into permanent share capital. Fourth, they can be a useful takeover defence by forcing the offeror to withdraw and resubmit the offer or extend the original offer price to the newly created shares.

Share splits simply increase the number of shares available. For example, a company has 100 000 fully paid-up shares. If there was a 2:1 share split, there would be 200 000 shares. The share split does not change the balance of any of the shareholders' equity accounts. For example, share capital is $200 000 before and after the share split. Therefore, no journal entry is required to record the share split. The purpose of the share split is generally to reduce the unit market price of each share so that the shares are appealing to a wider range of investors.

12.8 Managers, investments and shareholders' equity

LO3 In earlier chapters, we emphasised the importance of the financial position of a company. Items such as total assets, total liabilities and total shareholders' equity form the basis of performance measures that can be used to evaluate the company and its managers. Many of these indicators, such as return on total assets and the ratio of debt to equity, have been mentioned previously, and will be covered in detail in Chapter 15. Therefore, it is important that managers understand how decisions they make affect some balance sheet items such as investments and shareholders' equity.

When purchasing shares, investment managers need to be aware that the percentage of shares they buy will affect the influence or control they have over the investment, which in turn affects how these investments are accounted for in the financial statements. Decisions on dividends, bonus issues and so on will affect the closing balance sheet. An understanding of the nature of retained profits and the various reserve accounts is important in determining the level of dividends that can be paid or the amount of a bonus issue.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Cost versus equity method

On 1 January 2019, Y Ltd acquired 100 000 shares (30 per cent of the voting interest) in P Ltd for $900 000 cash. On 30 June 2019, P Ltd announced its earnings per share for the first six months of 2019 at $2.00 per share. On 20 November, P Ltd paid dividends to shareholders at $1.20 per share. On 31 December 2019, P Ltd announced its earnings per share for 2019 at $3.50 per share (i.e. $1.50 additional since 30 June).

1. If Y Ltd used the cost basis, what was the balance sheet value of its investment in P Ltd at 31 December 2019?
2. If Y Ltd used the cost method, what dividend revenue did it record for the year ended 31 December 2019 in respect of its investment in P Ltd?
3. If Y Ltd used the cost method, what would have been the impact of P Ltd's 30 June 2019 earnings announcement?
4. If Y Ltd used the equity basis, what was the balance sheet value of its investment in P Ltd at 31 December 2019?
5. If Y Ltd used the equity basis, what revenue did it record for year ended 31 December 2019 in respect of its investment in P Ltd?
6. If Y Ltd used the equity method, what would have been the impact of P Ltd's 31 December 2019 earnings announcement?

PRACTICE PROBLEM B

Retained profits

The following transactions occurred in the 2019 financial year. The opening balance of retained profits was $20 000.

a. Shares were issued (4000 at $4 each).
b. $2500 worth of inventory was purchased on credit and has not yet been sold.
c. The company made a net loss for the period of $4250.
d. The company moved $550 from the general reserve to retained profits.
e. Dividends of $5000 were declared and paid.

Required:

1. What is the closing balance of retained profits?
2. How much did total shareholders' equity increase during the year?

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1. What is the difference between a short-term investment and a long-term investment?
2. Explain the difference between the equity method and the cost method for the valuation of investments.

3 What is consolidation?
4 What is meant by non-controlling interests in the balance sheet?
5 List three examples of reserves.
6 A company decides to split its existing shares in half (i.e. replace each existing share with two shares). What impact will it have on the balance sheet?
7 What is the difference between liabilities and equity?
8 Explain the conditions that must be met before a final cash dividend may be paid to the ordinary shareholders of a company.
9 Explain how the following benefit from the issue of share dividends (bonus shares):
   a existing shareholders
   b future shareholders
   c the company.
10 Why does a subsidiary have to be consolidated with the parent's accounts?
11 Since it is the sum of more than one company, won't a consolidated balance sheet present a stronger financial picture than the parent's unconsolidated balance sheet does?
12 What does goodwill on consolidation on the consolidated balance sheet mean?
13 What purpose is served by transferring amounts from retained profits to reserves, when the amounts may be transferred back if the directors so decide?
14 Explain the accounting differences between a bonus issue (share dividend) and a share split.

PROBLEMS

PROBLEM 12.1

Equity and cost bases of accounting for an investment

Baxter Investments Ltd owns 23 per cent of the voting shares of Bluebird Hotel Ltd. It bought them last year for $1 500 000 and, since then, Bluebird has reported net profit of $400 000 and declared dividends totalling $160 000. Baxter accounts for its investment in Bluebird on the cost basis.

1 Give the figures for:
   a the revenue Baxter will have recognised from its investment since acquisition
   b the present balance in the company's balance sheet account for investment in Bluebird Hotel Ltd.
2 Give the same figures requested in question 1 if Baxter accounted for its investment on the equity basis.

PROBLEM 12.2

Equity and cost bases of accounting for an investment

On 1 March 2019, Romeo Ltd acquired a 34 per cent share (20 000 shares) in Juliet Ltd for $680 000. On 30 June 2019, Juliet announced earnings at $3.80 per share and also paid out dividends of $1.60 per share.

1 Using the cost method, what is the value of the investment in Juliet Ltd, as listed on Romeo's balance sheet?
2 Using the cost method, what is the value of the revenue from this investment recorded by Romeo?
3 Using the equity method, what is the value of the investment in Juliet Ltd, as listed on Romeo's balance sheet?
4 Using the equity method, what is the value of the revenue from this investment recorded by Romeo?

PROBLEM 12.3

Cost and equity methods

On 1 July 2017, Kokos Ltd acquired a 25 per cent interest in Pier Ltd for $220 000 in cash. Kokos Ltd has no other investments. Extracts from Pier Ltd's financial statements for the years ended 30 June 2018 and 30 June 2019 are as follows:

	30/6/2019 $	30/6/2018 $
Net profit	250 000	180 000
Dividends paid (30 March)	(15 000)	(15 000)

1 For the year ended 30 June 2018, prepare the journal entries for Kokos Ltd to account for its investment in Pier Ltd under the:
   a cost method
   b equity method.
2 Calculate the present value in Kokos Ltd's balance sheet for investment in Pier Ltd as at 30 June 2019 under the:
   a cost method
   b equity method.
3 What is meant by an investing company having a significant influence over an investee company?

PROBLEM 12.4

Equity method

Rosno Group Limited's 2019 balance sheet includes a line that shows that 'Investments accounted for using the equity method increased from $30.2m to $33.4m'.

1 Where in the balance sheet would this amount be shown?
2 In the notes to the accounts Rosno shows the items that increase and decrease this account. What would be the main item that increased the balance and one that decreased the balance?
3 If Rosno had used the cost method instead of the equity method would the account investments accounted for using the equity method be higher or lower?

PROBLEM 12.5

Equity basis of accounting versus consolidation

International Printers Ltd owns 45 per cent of the voting shares of Nomad Printers Ltd. It acquired the shares several years ago for $10 million. Nomad lost money for some years after acquisition, but has recently begun to be profitable. Since International acquired its shares, Nomad has had losses totalling $790 000 and profits totalling $940 000, for a total net profit since acquisition of $150 000. Last year, Nomad paid its first dividend, $100 000.

1 International accounts for its investment in Nomad on the cost basis. What is the present figure for investment in Nomad on the balance sheet of International?
2 International presents statements using the equity method. What does this mean? What would be the present figure for investment in Nomad on the balance sheet of International using the equity method?
3 What difference would it make to the balance sheet of International if the Nomad investment were consolidated instead of using the equity method?
4 Suppose that International had bought 65 per cent of the Nomad voting shares for its $10 million and that, at that date, the following values existed for Nomad: book value of assets, $18 million; sum of fair values of assets, $19 million; book value of liabilities, $7 million; and sum of fair values of liabilities, $10 million. Calculate the goodwill that would have been shown on the consolidated balance sheet of International if the Nomad investment had been consolidated at that date.

PROBLEM 12.6

Explanation of consolidated statements

In 2019, Parent Company acquired 80 per cent of the outstanding voting shares of Subsidiary Company, establishing control over the board of directors. Parent Company used the cost method of accounting for the investment during the year, but prepared consolidated financial statements at the end of the year. The consolidated financial statements are summarised below:

	Parent $	Subsidiary $	Consolidated $
Cash	14 000	15 000	29 000
Accounts receivable	27 000	24 000	45 000
Inventory	18 500	11 500	30 000
Property, plant and equipment	110 000	80 500	190 500
Investments in Subsidiary Company	92 000	–	–
Intangible assets	–	–	5 200
	261 500	131 000	299 700
Current liabilities	37 000	11 500	42 500
Noncurrent liabilities	5 000	3 000	8 000
Non-controlling interests	–	–	25 200
Share capital	125 000	75 000	125 000
Retained earnings	94 500	41 500	99 000
	261 500	131 000	299 700
Revenue	110 000	77 000	167 000
Cost of goods sold	70 000	42 500	96 500
Operating expenses	22 000	21 500	43 500
Non-controlling interests	–	–	4 500
Net profit	18 000	13 000	22 500
Retained earnings, beginning of year	89 000	33 500	89 000
Dividends	12 500	5 000	12 500
	94 500	41 500	99 000

1 Explain the meaning of the accounts appearing on the consolidated balance sheet that do not appear on either of the unconsolidated balance sheets.

2 Certain accounts and amounts from the unconsolidated statement do not appear on the consolidated statements. Identify these amounts and accounts and explain why they are eliminated in the consolidation.

3 Accounts receivable and accounts payable on the unconsolidated statement do not total to the amount shown on the consolidated statements. What is the most likely reason for this?

PROBLEM 12.7

Valuation of investments

The following shares were held by Roxby Pty Ltd at 30 June 2019.

Share	Market $	Cost $
Riley Ltd	115 000	110 000
Blytheswood Ltd	80 000	90 000
Roland Ltd	15 000	45 000
Total	210 000	245 000

1 Prepare the journal entry for 30 June 2019 to reduce the shares to the lower of cost or net realisable value.
2 What is the reasoning behind this entry? How would it be reflected in the financial statements?

PROBLEM 12.8

Issue of shares

The following transactions relate to the issue of shares by Tindale Ltd.

Date	Transaction
2019	
1 Feb	The public was invited to make an application for 100 000 shares at $1.00 each, 20c per share being payable on application.
28 Feb	Applications were received for 70 000 shares.
15 Mar	The directors allotted 60 000 shares and the successful applicants were advised that 30c per share was due on allotment.
31 Mar	The balance due on allotment was received.
1 May	A first call of 25c per share was made.
31 May	$14 000 was received with respect to the first call.

Record the above transactions in the appropriate journals, and prepare a note to the accounts showing the capital structure at 31 May 2019.

PROBLEM 12.9

Oversubscriptions

1 Prepare journal entries for each of the following transactions:
   a XYZ Ltd issues 200 000 shares to an institutional investor on 10 October 2019 for $2.90 a share.
   b In September 2019, ABC Ltd issued a prospectus offering 500 000 shares at $3.00 per share, all payable at the time of application. On 15 October, $1 800 000 had been received, and the directors allotted the 500 000 shares to subscribers in proportion to their applications and refunded the balance of the application monies.
   c Assume that in part (b) $2.00 was payable on application, $0.50 on allotment and $0.50 on call, and there was no oversubscription.
2 Prepare the shareholders' equity section of the balance sheet for ABC Ltd after the transactions in question 1, part (c) have occurred, assuming that retained profits were $100 000 and that there were no other reserves.

PROBLEM 12.10

Shareholders' equity

The shareholders' equity section of Journal Limited is reproduced below.

	2019 $	2018 $
Share capital	1 400 000	1 300 000
Reserves	150 000	200 000
Retained profits	250 000	350 000
Total shareholders' equity	1 800 000	1 850 000

1 Provide two plausible reasons for the reduction in retained profits between 2018 and 2019.
2 List three examples of what could be included in reserves.
3 Give possible reasons for the change in share capital.
4 The manager of Journal Limited is contemplating a bonus issue. What impact would a bonus issue ($100 000) have on total shareholders' equity?

PROBLEM 12.11

Shareholders' equity

Reproduced below is the shareholders' equity section of the balance sheet of Locomotion Limited.

		Consolidated		Parent	
	Note	2019 $	2018 $	2019 $	2018 $
Share capital	23	314	298	314	298
Reserves	24	206	194	175	182
Retained profits		391	342	103	95
Non-controlling interests	25	13	12	–	–
		924	846	592	575

1 Briefly describe what information would be contained in note 23.
2 What is the difference between the parent and consolidated columns?
3 Apart from the general reserve, list two other common reserves that might be shown in note 24.
4 What might have caused the movement in retained profits from 2018 to 2019?
5 What are non-controlling interests? Why might they have increased?

PROBLEM 12.12

Share buyback

The CFO of X Limited is concerned that the new investment opportunities available to the firm provide a lower average return than other investments they presently hold. She is considering the possibility of a share buyback.

1 What is meant by a share buyback?
2 Why do companies buy back their own shares?
3 What factors would impact the timing of the buyback?
4 What balance sheet accounts would be affected by the buyback?
5 Is profit or earnings per share affected by the share buyback?

PROBLEM 12.13

Explain the nature of certain reserves

The note on reserves is provided below. Explain the nature of each of the reserves.

	Consolidated	
	2019 $000	2018 $000
Capital		
Balance at start of year	26 874	26 494
Transfer from retained profits	–	380
Balance at end of year	26 874	26 874
General		
Balance at start and end of year	13 337	13 337
Asset revaluation		
Balance at start of year	31 188	31 704
Increase (decrease) arising from revaluation of freehold land and buildings and investments	–	(516)
Balance at end of year	31 188	31 188

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Foreign currency translation		
Balance at start of year	6 575	2 825
Translation adjustment on controlled foreign entities' financial statements	(1 197)	3 750
Balance at end of year	5 378	6 575

PROBLEM 12.14

Issue of shares, bonus issues and revaluations

The abridged balance sheet of Brace Ltd, at 30 June 2019, was as follows:

BRACE LTD
BALANCE SHEET AS AT 30 JUNE 2019

	$		$
Inventories	10 000	Trade creditors	60 000
Trade debtors	20 000	Accrued expenses	40 000
Equipment	100 000	Share capital (shares of $1)	200 000
Freehold premises	270 000	Retained profits	100 000
	400 000		400 000

Fifty thousand shares were issued to the public at $1.50 per share, with the full amount of $1.50 per share being payable on application. Applications were received for 80 000 shares, and a refund was made to the unsuccessful applicants.

The freehold premises were revalued at $350 000. The directors resolved to make a bonus issue of one fully paid share at a value of $1.50 for every five shares held (including the 50 000 recently issued). For this purpose, it was decided that the full credit balances in the revaluation surplus accounts would be used, along with a portion of the retained profits account.

Assuming that no other transactions took place, record the above transactions in the journal, post to the ledger and prepare the balance sheet.

PROBLEM 12.15

Prepare financial statements

On 30 June 2019, the following figures were extracted from the general ledger of Nora Ltd.

	DR $	CR $
Share capital		156 000
Retained profits		20 000
Mortgage		27 000
Plant	180 000	
Cash	26 100	
Goodwill	15 000	
Accounts receivable	7 400	
Accounts payable		5 200
Prepayments	620	
Accrued expenses		470
Accumulated depreciation		55 000
Inventory	84 450	
Government bonds	10 000	

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General reserve		17 900
Land	100 000	
Profit before tax		142 000
	423 570	423 570

Additional information:

On 30 June 2019, the directors of Nora Ltd resolved to:

a provide for estimated tax liability, $65 000

b transfer $2100 to general reserve

c paid a dividend at the rate of 3 per cent on share capital.

Required:

1 Prepare an income statement and a note of retained profits for the year ended 30 June 2019.

2 Prepare a balance sheet as at 30 June 2019.

CASES

CASE 12A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 What information does Woolworths provide about its consolidation policies in its notes on significant accounting policies?

2 How are investments valued?

3 What does goodwill in the balance sheet represent? Has goodwill been impaired during the year?

4 Does Woolworths provide any equity accounting information (see the income statement, balance sheet and notes to the accounts)?

5 How many shares were issued during the year?

6 Were there any transfers between general reserves and retained profits during the year?

CASE 12B Shareholders' equity and liabilities

The shareholders' equity section of CSR Limited's 2017 balance sheet is shown below.

		CSR Group	
	Note	2017 $m	2016 $m
Net assets		1 206.5	1 317.2
Equity			
Issued capital	15	1 036.8	1 041.1
Reserves	17	(73.4)	20.4
Retained profits		191.6	123.2
Equity attributable to shareholders of CSR Limited		1 155.0	1 184.7
Non-controlling interests	21	51.5	132.5
Total equity		1 206.5	1 317.2

CSR Limited, *Annual Report 2017*, p. 72.

1 Provide a reason for the change in share capital.

2 Explain what is meant by non-controlling interests.

3 Retained profits have increased from $123.2 million to $191.6 million. What items would be used to reconcile these two figures?

HOW'S YOUR UNDERSTANDING SOLUTIONS

12A (i) Yes
(ii) No
(iii) Yes

12B (i) a $45 000
b $78 500
(ii) a $460 000
b $493 500 (i.e. $460 000 + $78 500 − $45 000 = $493 500)

12C Non-controlling interests appears separately in the shareholders' equity section of the consolidated balance sheet. It represents the interests of the shareholders who have shares not owned by the parent company.

12D $1 400 000

12E (i) –$50 000 cash
(ii) Nil
(iii) Nil, dividends are a distribution of profits not an expense
(iv) –$50 000 via retained profit

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1. $900 000
2. 100 000 × 1.20 = $120 000
3. No record would have been made.
4. $1 130 000, i.e. 900 000 + (2.00 – 1.20 + 1.50) × 100 000
5. Would show revenue under the equity method, i.e. $3.50 × 100 000 (but it would not be called dividend revenue)
6. Increases investment in P Ltd by $150 000 ($1.50 × 100 000)

PRACTICE PROBLEM B

1	Opening Retained profit	20 000
	Less loss	(4 250)
	General reserve	550
	Dividends	(5 000)
	Closing Retained profit	11 300
2	Increase in share capital	16 000
	Loss	(4 250)
	Dividends	(5 000)
	Increase in shareholders' equity	6 750

COURSEMATE EXPRESS

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13 Revenue and expense recognition: additional concepts

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 distinguish between the terms 'income' and 'revenue' (13.1)

LO2 explain the criteria used to decide whether revenue should be recognised (13.2)

LO3 calculate the impact on profit of different revenue recognition methods (13.2, 13.7)

LO4 explain the criteria used to decide whether expenses should be recognised (13.3)

LO5 calculate the amount of income and revenue that should be recognised in a particular period (13.4)

LO6 understand the contents of a statement of profit or loss and other comprehensive income (13.4)

LO7 interpret the disclosures of accounting policies on revenue and recognition provided in annual reports (13.4)

LO8 understand the contents of a statement of changes in equity (13.5)

LO9 conduct 'what if' analysis (13.6).

CHAPTER OVERVIEW

This chapter discusses the concepts of income and expenses, including their recognition, in more detail. Income includes both revenues and gains and this distinction is explained in section 13.1; however, this chapter concentrates on revenue recognition. Organisations must choose an appropriate point at which to recognise revenue. Several alternatives are available, and this important decision is at the core of this chapter. The content of income statements and statements of changes in equity is also discussed within the chapter.

13.1 Revenues

LO1 Revenues are one form of income. The Framework defines income as 'increases in economic benefits during the reporting period in the form of inflows or enhancements of assets or decreases of liabilities that result in increases in equity, other than those relating to contributions from equity participants'.

No doubt this definition looks pretty complicated. Remember that not all revenue is as simple as selling a product for cash, and new forms of revenue are being created all the time. Thus a definition of revenue that can handle many different situations is needed. So let's consider some of the phrases in this definition. 'Inflows or enhancements of assets' includes receiving cash, receivables (a promise by someone to pay you cash at a later date) or other goods or services (e.g. free advertising space) in exchange for goods or services that the selling company has provided. While less common, income can result from the settlement of liabilities. For example, the selling company may provide goods or services to another company it owed money to in settlement of an obligation to repay an outstanding loan; that is, by providing the goods or services it no longer has to repay the loan. Thus you can see that the recognition of income occurs simultaneously with the recognition of the increase in the asset or the decrease in liability. That is, you need to know when an asset or liability is recognised in order to know whether income is recognised.

Another point about the definition is that there must be an increase in equity, other than those relating to contribution for shareholders (i.e. issue of shares is not revenue). Also note that if equity is to increase, either assets increase or liabilities decrease; that is, A − L = SE.

We will now consider five examples and you can use the above discussion to decide if they meet the definition of revenue.

1. A company sells a box of printer paper for $12 cash. There is an inflow of economic benefit (there is an increase in assets, cash); there is an increase in equity as the asset increases (SE = A − L) and therefore revenue can be recognised.
2. A wholesaler sells 1000 boxes of paper for $8000 on credit. There is an inflow of economic benefit (there is an increase in assets, accounts receivable); there is an increase in equity as the asset increases (SE = A − L) and therefore there is revenue.
3. A painting company owes the bank $20 000, but because it has cash flow problems it has been having difficulty in repaying the amount. The bank agrees to forgive the debt in return for the company painting its head office. The company carries out the painting job. There is an inflow of economic benefit (loan does not have to be paid in the future); there is an increase in equity as a liability decreases (SE = A − L) and therefore there is revenue.
4. A company borrows $10 million from the bank. Here there is no increase in equity as both assets and liabilities increase by the same amount (A − L = SE) and therefore revenue is not recognised.
5. A company issues 10 000 shares at $8 to existing shareholders. While equity increases (i.e. both assets and shareholder equity increases), this is a contribution from equity participants and is not included as revenue according to the definition of revenue.

Revenue is income that arises during the course of the ordinary activities of an entity; examples of revenue include sales, fees, interest, dividends, royalties and rent. Gains are income that arises from the disposal of noncurrent assets or from the revaluation of current and noncurrent assets, such as marketable securities and long-term investments, respectively.

Thus, under the Framework, whether income is revenue or a gain is a matter of professional judgement that depends upon whether the income arises 'in the course of the ordinary activities of the entity'.

FOR YOUR INTEREST

The Securities and Exchange Commission (SEC) in the United States regularly reports the SEC's enforcement actions that are based on improper issuer financial reporting, fraud, audit failure or auditor independence violations. Hundreds are charged with fraud in connection with reporting violations, many of which result in lengthy jail sentences. The greatest number of actions generally relate to improper revenue recognition.

13.2 Revenue recognition

It can be said that profit over the life of an organisation is easy to determine. At the end of the organisation's life, all expenses have resulted in cash outflows, and all the revenue earned has resulted in cash inflows. There is no need for estimates; the results are known with certainty. Profit for the life of the organisation is simply the difference between the total cash contributed to the business by the owners and the total cash withdrawn by the owners plus any cash remaining at the end. LO2 LO3

The difficulty in reporting profit periodically – which is how economic decision-makers require information about the operations of a firm – is that of finding a way to put the essentially continuous operations of a firm into discrete time periods. The result is that profit determined earlier, so that it is relevant for evaluating the organisation's performance over shorter decision periods, is unavoidably subject to estimates and judgements, because the whole story is never known until the end, but no one wants to wait for the end. These judgements include what proportion of the revenue on a construction job or a service agreement goes in this year; what proportion of rent paid is an expense this year versus an asset at the end of the year (called prepayments); what amount of wages has been earned this year, regardless of whether it has been paid yet; and over what period the equipment should be depreciated.

We are back to the ever-present trade-off between relevance and representative faithfulness (often referred to as 'reliability') in profit measurement. If revenues and expenses are recognised earlier, so that they are more relevant for decision-making, they will not be as reliable as they would be if recognition was delayed until later, when outcomes of the various economic activities are better known.

Critical event simplification

If we are to describe the firm's operations for a given period by calculating the profit for that period, we must define a means by which we can measure the amount of profit that can be attributed to that period. We accomplish this by:

- defining how much revenue can be recognised in that period

then

- determining the expenses that were incurred to generate the revenue.

Profit – the value added by the activities of the firm – is just the difference between the recognised revenue and the recognised expenses.

But what are the revenues, or the expenses, for a period? Profit is earned by a wide variety of actions taken by the firm. There is a whole sequence of activities that are intended to help generate profit. This process therefore generates revenue and incurs expenses, including, for example:

- organising the firm in the first place
- buying or building the premises
- buying or making inventory
- advertising
- receiving an order
- selling the good or service

- delivering to the customer
- billing the customer
- collecting cash
- providing warranty service.

How should we recognise revenue when there is such a series of activities as those listed above? Should we recognise it a bit at a time as each activity is carried out? This would approximate the economic process underlying the business. This would be relevant, but by the same token it would be very subjective and imprecise, because it is difficult to say what each activity actually adds. For example, how do you tell, when the company is just being organised, what revenue that form of organisation will help to generate? It would also be expensive to implement, with armies of accountants scurrying about measuring minute value changes generated by the various activities and writing large numbers of journal entries to recognise each value change.

Instead, for greater objectivity and verifiability and lower accounting costs, accountants usually choose one activity in the sort of sequence above as the critical event in the revenue-generation sequence that can be readily documented, and recognise all of the revenue at that point. This is a simplification because, clearly, some revenue could have been recognised when earlier activities were carried out, and probably some should be recognised when later activities take place. For some companies, such as those building big projects like power stations, pipelines, highways, tunnels and bridges, it is worthwhile estimating revenue at several points along the way (see later discussion on percentage of completion methods), but for most the simplification of the critical event is followed. *The most common critical event used is the point of delivery of the goods or services to the customer.*

It should be noted that sometimes quite a few of these events happen at the same time and delivery is very easy to determine. For example, if you go into a fast food chain and buy a burger and drink, the order, sale, delivery, billing and cash received all are likely to happen together. If you go to a different shop and buy some custom-made shirts, the sale occurs when you are measured and agree to buy, with billing (being told 'it will cost you $100') and possibly cash paid occurring at the same time; delivery may be a week later. Possibly only part of the cash will be paid on that day of sale and the remainder paid later. Now consider buying an airline ticket from Sydney to Melbourne. When you go online, the billing, sale and payment (via credit card) will all happen in a very short period and then delivery of the flight will occur later when the flight takes off. This could be six months or more. Note that Qantas refers to this as 'when passengers and freight are uplifted'. It gets more complicated if you buy an around-the-world ticket and delivery occurs in stages.

At this point you can see that these events can get complicated. Consider an Australian mining company selling iron ore to a manufacturer in China. The sale may occur in 2019 with agreed delivery dates at agreed prices over the next three years. In this case, what is meant by delivery? Is it when the ore is taken out of the ground, put into trucks, the trucks arrive at the Australian wharf, loaded onto the ship, arrives at the Chinese wharf or when it arrives at the Chinese factory? One would have to go to the contract to decide what was considered delivery, which is the key criterion for revenue recognition. Payments could be tied to delivery, or they could be in advance, or they could be after delivery (e.g. payable in 10, 30 or 60 days).

Criteria for revenue recognition

Revenue recognition, then, becomes the first step in determining profit for the period. The revenue recognition criteria discussed below have been formulated for the purpose of making sure that revenue will be recognised only when there is objective evidence that revenue has indeed been earned. The following four criteria must normally all be met in order for revenue to be recognised. For most firms, the activity nearest to fitting these criteria is chosen as the critical event.

The key conditions for recognising revenue are as follows:

1 Significant risks and rewards of ownership have been transferred to the buyer. This normally coincides with the transferring of legal title (e.g. the contract between the Australian miner and the Chinese manufacturer

could stipulate when ownership changes hands, such as when the iron ore leaves the Australian port) or the passing of possession to the buyer (e.g. the sales assistant passes you the product you bought, such as a burger, a pen or a computer). There are examples when the company retains significant risks of ownership and therefore revenue is not recognised. For example:

- when the receipt of the revenue is contingent on the buyer deriving certain revenue. Owners of shopping centres often charge the shops a fixed fee plus a percentage of sales. Revenue related to the latter cannot normally be recognised until the shop has made sales. This may be ascertained at the end of a period – a month, a quarter or a year.
- when a sale includes both shipping and installation and the installation has not been completed. Generally, revenue is recognised here when substantially all of the procedures have been provided, so a judgement is needed when this occurs. Is it when 100 per cent of the services have been performed, or 90 per cent or 80 per cent?
- when buyers have the right to cancel a sale and the seller may be uncertain about the probability of returns. For example, a newly established company may guarantee full refunds for a particular product for up to three months after the sale. In this case there is likely to be a lot of uncertainty about the probability of return, and the recognition of revenue (or part of it) may be deferred to the end of the three-month period. On the other hand, an established retailer such as Myer or David Jones may have a refund policy when the customer is not satisfied. In the latter case, revenue would be recognised at the time of sale if the retail store can reliably estimate future returns and recognise a liability (and related expenses) at that point for returns based on its previous experience. Note again the judgement involved in this situation.

2. The amount of revenue must be able to be reliably measured. For example, a publishing company may publish a new book and while it may have completed the production process the amount of revenue will not be known as it depends on future sales. The author may have completed all of their work but again revenue for the author cannot be reasonably measured at this point.
3. It is probable that the economic benefits related to a transaction will flow to the seller. This is normally the case and a company does not usually sell to customers it believes will not pay. However, unusual circumstances such as whether a foreign government will give permission for the funds to be transferred may mean that the revenue recognition will be delayed until this permission is given.
4. Expenses related to the earning of the revenue can be reliably measured. Accounting standards suggest that revenues and expenses that relate to the same transaction should be recognised simultaneously. This process is called matching of revenues and expenses. The basic idea is that expense accounts should be increased in the same accounting period as the revenue (to which the expense relates) was recognised. Examples of such expenses are warranty expense and employee entitlements. The journal entry for these expenses is to debit the expense account and credit the relevant liability account (e.g. provision for warranty, provision for employee entitlements). These types of expenses can generally be reliably measured based on past experience. However, when these expenses cannot be reliably measured, revenue cannot be recognised at this point.

For recognition of revenue from the rendering of services there is the additional issue of the stage of completion of the transaction at the end of the accounting period. For revenue to be recognised, it is necessary that the stage of completion can be reliably measured. Such measurement is usually done in one of the following three ways:

- a survey of the work performed to date
- services performed as a percentage of the total services performed
- the proportion of the costs on the project incurred to date compared to the total costs to be incurred on the project.

HOW'S YOUR UNDERSTANDING?

13A When would revenue likely be recognised for each of the following organisations?
- **(i)** a construction company that builds high-rise office buildings
- **(ii)** the student cafeteria at your university
- **(iii)** your local gymnasium
- **(iv)** a discount airline where all tickets are non-refundable
- **(v)** tickets to the Australian Open tennis.

Methods of recognising revenue

To deal with many of the above problems, there are several points in the revenue-earning process at which revenue is commonly recognised, though, as noted above, point of sale or delivery is the most common. You'll see those points below.

To recognise the earning of revenue when the critical event has taken place, we make the following recognition entry:

DR	Cash or accounts receivable or unearned revenue liability	XXXX	
CR	Revenue		XXXX

Let's take a closer look at the four most commonly used methods of revenue recognition.

1 AT POINT OF SALE OR DELIVERY

For most retail, service and manufacturing businesses, revenue is recognised when the product or service is sold. 'Sold' is usually defined as being when the goods or services have been shipped to the purchaser; that is, when legal title passes to the purchaser.

- At that point, substantially all of the service has been performed, significant risks and rewards associated with ownership have been transferred to the buyer, terms and price have been set, and cash has been received or there is an agreement to pay it in the future (e.g. accounts receivable).
- Even though there is some risk involved in extending credit, this can usually be adequately estimated and deducted from the gross revenue by way of the bad debts expense account.
- Another risk at the point of sale is the possibility of returns and the likely service obligation under the warranties for the product or service sold. Again, this can usually be adequately estimated and recognised as an expense of the business and matched against the revenue of that period.

Point of sale or delivery is such a common revenue recognition method that most companies do not mention in their financial statements that they are using it. You are expected to assume it is the method being used if you are not told otherwise, as you probably would be if any of the other three methods below were used.

2 DURING PRODUCTION

Sometimes, the earnings process extends well beyond one financial period, as is the case in building construction, road building, ship building and other lengthy processes. In such situations, if a firm waited until the point of delivery to recognise revenue, it might report no revenue for one or more years, then, when the project was complete, report all the revenue. This would distort the performance picture of the company for the duration of the project: some years with no revenue, then one year with huge revenue, even though the company was working consistently on the contract all along. Generally, projects include enough documentation that the value added can usually be estimated and verified. Therefore, in an attempt to provide users with useful information and reflect the economics of what is happening, revenue may be recognised during production. (This also means recognising expenses and, therefore, profit during production.)

The percentage of completion method is the most common way of recognising revenue during production. This method entails determining what proportion of the project has been completed during the year and recognising that proportion of total expected revenue, expenses (costs) and, therefore, profit. Often this is done by measuring the proportion of expected total costs incurred during the period. In order to recognise revenue in this manner, total costs must be reasonably determinable, the contract price (total revenue) must be reasonably certain and there must be reasonable assurance of payment. The frequent use of the word 'reasonable' here shows that a lot of judgement is required in using this method!

In the percentage of completion method, revenue is recognised as the work proceeds. Let's assume Greenway Construction had a large, three-year project with total revenue of $4 million and total costs of $3.4 million. (Before expense recognition, project costs are charged to an inventory account for costs of construction in process. Like other inventories, this account holds costs until they are expensed.) Total profit for the project over the three years was, therefore, $600 000. The project was 20 per cent completed at the end of the first year, 65 per cent completed at the end of the second year and 100 per cent completed at the end of the third year. Ignoring complications that arise when revenues and costs do not work out as expected, here are journal entries to implement the percentage of completion revenue (and matched expense) recognition during production. (For presentation purposes, all amounts are in thousands of dollars.)

			Year 1		**Year 2**		**Year 3**
Percentage of contract done in the year			20%		45%		35%
			$000		*$000*		*$000*
Revenue recognition:							
DR	Accounts receivable	800		1 800		1 400	
CR	Sales revenue		800		1 800		1 400
	Percentage earned each year						
Expense recognition:							
DR	Cost of goods sold expense	680		1 530		1 190	
CR	Inventory (often called 'Construction in progress inventory')		680		1 530		1 190
	Percentage of expenses each year						
Resulting profit each year		120		270		210	

You can see the *timing* effect of accrual accounting here. The annual entries have the effect of spreading the $600 000 project profit out over the three years: 20 per cent to the first year, 45 per cent to the second and 35 per cent to the third.

3 ON COMPLETION OF PRODUCTION

It is also possible to wait until the work is all done and recognise the revenue then. This is like the point-of-sale method, except that if the work took a long time, perhaps several accounting periods, then it is very conservative, because no revenue would be recognised for a long time, then all of it at once. In the Greenway Construction example above, if revenue, and the associated expenses, were recognised on completion of the production, the project profit would be:

- $0 in year 1
- $0 in year 2
- $600 000 in year 3.

Compared to the percentage of completion method, profit would be:

- $120 000 *lower* in year 1
- $270 000 *lower* in year 2
- $390 000 *higher* in year 3 ($600 000 − $210 000).

Therefore, if the company wanted to know what would happen ('what if') if it changed to the completion of production (or completed contract) method, there is the answer, ignoring income tax.

4 WHEN CASH IS RECEIVED

If there is serious doubt as to the collectability of cash from a revenue-generating transaction, revenue recognition is delayed until the collection has actually taken place. This does not mean that any time a business extends credit to a customer, revenue recognition is delayed; this is only the case when the risk is great and the amount to be collected cannot be reasonably determined, or is not sufficiently predictable.

For example, certain real estate transactions that are speculative in nature and/or for which the collection of cash is contingent upon some future condition (such as the purchasers of a shopping centre successfully leasing a certain percentage of the space) will not be recognised as revenue until the cash is received.

HOW'S YOUR UNDERSTANDING?

13B In 2019, Flimsy Construction Ltd has recognised 38 per cent of the total expected revenue from a contract to build a house extension. The total contract price is \$43 000, and Flimsy expects its costs for the contract to be \$29 500. Costs so far have been in line with expectations. How much contract expense should Flimsy recognise for 2019 and what would the resulting contract profit be for 2019?

Example of revenue recognition

CIMIC Group Limited is a large Australian company that is involved in long-term contracts. The relevant note from its 2017 accounts is as follows:

> CIMIC GROUP LIMITED REVENUE RECOGNITION
>
> Revenue from construction contracting services is recognised using the percentage complete method. Stage of completion is measured by reference to costs incurred to date as a percentage of estimated total costs for each contract. Where the project result can be reliably estimated, contract revenue and expenses are recognised in the statement of profit or loss as earned and incurred. Where the project result cannot be reliably estimated, profits are deferred and the difference between consideration received and expenses is carried forward as either a contract receivable or contract payable. Once the contract result can be reliably estimated, the profit earned to that point is recognised immediately.
>
> Source: CIMIC Group Limited, *Annual Report 2017*.

Some key points in the above disclosure by CIMIC Group Limited are: it uses the percentage of completion basis on construction contracts; percentage of completion is based on costs incurred to date compared to the total estimated costs of the project; and revenue and expenses are only recognised when they can be reliably measured. Note that this is often difficult in the construction industry. For example, total expenses for the whole project may be difficult to determine due to uncertainty. (For example, how hard is the rock to be drilled through? What will be the total of restoration costs?).

FOR YOUR INTEREST

Many studies, particularly in the United States, have noted the prevalence of improper revenue recognition. Some examples include:

- holding books open after the close of a reporting period (such as holding them open for an extra five days)
- bill and hold (e.g. providing incentives to customers to write purchase orders before the customer needs the goods, and then holding the goods until the customer requests delivery)
- recognising all the revenue related to the contract up front at the time of sale, even though there were 'multiple element deals where significant future services or future products were to be delivered later'
- fictitious revenue (e.g. making fraudulent adjustments to sales numbers).

SOME SPECIFIC EXAMPLES

Here are some examples of revenue recognition of organisations you may be aware of. For each situation, state whether revenue would be recognised in December 2019.

1 In December 2019 you drop into McDonald's on the way home from university and buy dinner; the cost is $10.14.

McDonald's would recognise revenue on the date you visited for $10.14.

2 You buy a new Mazda 3 from your local dealer in November 2019, pay a $2000 deposit and the car is delivered on 7 December. The total cost is $27 800.

On the day of delivery revenue of $27 800 would be recognised.

3 Assume the Cricket World Cup is to be held around Australian cities across November–December 2019. All tickets were sold out in June 2018.

Revenue for each game would likely be recognised on the day the game is completed. The revenue for each game is the number of tickets sold times the price of those tickets.

4 You decide to visit friends on the Gold Coast from 21 December 2019 to 4 January 2020. You buy your Qantas ticket in September for $240 ($120 each way) and charge it to your credit card.

Airlines generally recognise revenue at the time of takeoff, so $120 would be recognised on 21 December and $120 on 7 January.

5 Your university offers summer classes for $3000 per subject and you have enrolled in the subject 'Advanced Accounting', which consists of 12 three-hour classes. Four classes each are held in December, January and February. You pay the fees in December.

The university would recognise 4/12 of $3000 (i.e. $1000) in December as this represents the percentage of the service it has provided.

6 Fairfax Media has a popular cooking magazine with 12 issues per year. During December 2019 it receives $372 000 in subscriptions. The magazine will be sent to the subscribers on the first day of each month for the 12 months in 2020.

There is nil revenue in 2019, with 1/12 each month in 2020.

7 ANZ Stadium in Sydney has a large number of members who pay a yearly subscription and in return have access to the rugby league (e.g. State of Origin), rugby union (e.g. Bledisloe Cup), soccer (internationals) and other sports (e.g. AFL). If the annual membership fee is paid in December 2019, on what basis will the organisation recognise revenue throughout 2020?

The most likely revenue recognition will be 1/12 per month. There are other possibilities including recognising a percentage of the revenue on the completion of each event. This becomes more complex because of differences in prices of tickets between events.

Measurement of revenue

Revenue is measured at the fair value of the consideration received or receivable. Here fair value is the amount for which the asset could be exchanged between knowledgeable, willing parties in an arm's length transaction; that is, the amount agreed between the buyer and the seller. In many cases this amount is determined by the seller (e.g. fast food chain, grocery shop or petrol station) and the buyer has a choice. In other cases there will be some negotiation; for example, buying a car or a house. If there are any trade discounts given, the revenue is recorded net of those discounts. For example, if the list price of a television is $1000 but the retail store sells it for $900, it is the $900 that is recorded as revenue. Similarly, if bulk discounts are given, it is the discounted price that is recorded. If a shirt sells for $50 but if you buy two the price per shirt is $35, in this case sales revenue is $35 × 2 = $70.

FOR YOUR INTEREST

If a company sells a product for $100 but also provides certain customers with discount coupons of 15 per cent, the company should recognise revenue of $85.

It should also be noted that revenue only includes the gross inflows received or receivable by the entity on its own account; that is, if it collects amounts on behalf of third parties (e.g. GST), they are not revenue. Also if an entity is in an agency relationship where it collects amounts on behalf of a principal (e.g. travel agents on behalf of an airline), revenue would be the amount of the commission, not the total airfare.

HOW'S YOUR UNDERSTANDING?

13C When you go into an Australia Post shop you may notice on the wall that you can pay certain bills there; for example, electricity, water or other utilities. That is, Australia Post collects the payment on behalf of another company.

(i) How much revenue does Australia Post recognise if it collects the cash for a $100 invoice for Energy Ltd and keeps 1 per cent?

(ii) How much does Energy Ltd recognise as revenue?

13.3 The expenses concept: the Framework

LO4 The Framework states that 'expenses are decreases in economic benefits during the accounting period in the form of outflows or depletions of assets or incurrences of liabilities that result in decreases in equity, other than those relating to distributions to equity participants'.

This definition of expenses encompasses losses as well as expenses arising in the course of the ordinary activities of the entity.

Expenses arising during the course of the ordinary activities of the business represent economic benefits that are consumed during the current accounting period, such as when prepaid insurance and stationery supplies are used up. In addition, there will be an outflow of future economic benefits in a future accounting period as a result of incurring a liability for electricity in the current accounting period. Some other expenses are wages and salaries, depreciation, cost of goods sold, rent and interest. Note that for all of the expenses listed above there will either be a decrease in an asset (cash, inventory, equipment, prepayments, supplies asset etc.) or an increase in a liability (salaries payable, interest payable etc.). This means, in effect, that recognition of expenses occurs simultaneously with the recognition of an increase in liabilities or a decrease in assets. Examples include the accrual of employee entitlements or the depreciation of equipment.

Examples of losses include losses from disasters such as fire and flood, as well as those arising from the disposal of noncurrent assets. The definition of expenses also includes unrealised losses; for example, those arising from the effects of inventory value falling below cost. When losses are recognised in the income statement, they are usually displayed separately because knowledge of them is useful for making economic decisions.

According to the Framework, an expense should be recognised when, and only when:

- it is probable that the consumption or loss of future economic benefits resulting in a reduction in assets and/or an increase in liabilities has occurred
- the consumption or loss of future economic benefits can be measured reliably.

Most expenses result from the production or delivery of goods and services during the accounting period, and the large majority of these involve little or no uncertainty that economic benefits have been consumed; for example, cost of goods sold, cost of employee services, and supplies and equipment used. However, in

some cases there will be uncertainty. For example, it may be difficult to determine whether the future economic benefits embodied in noncurrent assets have suffered commercial impairment (in addition to physical wear and tear) during the reporting period.

In addition, generally the consumption or loss of economic benefits will be capable of being measured with a high degree of reliability. However, in some cases this measurement will be subject to estimates (such as future warranty claims). In such cases, whether an item would qualify as an expense depends on whether the estimates can be made reliably. In general, estimates such as warranties, long service leave, and so on can be made reliably based on past experience, and are therefore recognised as expenses. However, some provisions (for example, product liability claims) can be subject to a high level of uncertainty. If they are capable of reliable measurement, they should be included on the balance sheet as a liability.

The Framework also notes that 'expenses are recognised in the income statement on the basis of a direct association between the costs incurred and the earning of specific items of income. This process, commonly referred to as the matching of costs with revenues, involves the simultaneous or combined recognition of revenues and expenses that result directly and jointly from the same transactions or other events.' An example is cost of goods sold, which is generally recognised at the time of sale of the item. That is, we recognise inventory as an asset when it is purchased and then later it is treated as an expense when the inventory is sold. For example, if 100 items that cost $10 each are sold on credit for $13 the journal entry you learnt in Chapter 3 was:

		$	$
DR	Accounts receivable	1 300	
CR	Sales revenue		1 300
DR	Cost of goods sold	1 000	
CR	Inventory		1 000

Let's apply the Framework rules to a series of transactions to determine if they should be recognised as an expense:

1 Wages are paid to an employee (these wages have not previously been recorded as a liability): economic benefits are consumed; there is a decrease in an asset, cash; therefore there is a decrease in equity (SE = A − L); an expense is recognised.

2 Wages are owed to an employee for work done during the period: economic benefits have been consumed; there is an increase in liabilities, wages payable; therefore there is a decrease in equity (SE = A − L); an expense is recognised.

3 Wages payable from the previous year are paid during the year: an asset decreases (cash) and a liability decreases (wages payable); therefore there is no change in equity (SE = A − L); no expense is recognised.

4 Purchase of a machine for cash: there is a consumption of economic benefit; one asset (cash) decreases and another asset (equipment) increases; there is no change in equity (SE = A − L); no expense is recognised.

5 At the start of the year the balance in prepaid rent amounts to $12 000 and covers the period from 1 July 2019 to 31 July 2019. Is there an expense on 31 July? Economic resources have been consumed in July; assets (prepayments) decrease and therefore equity decreases (SE = A − L); there is an expense of $1000 recognised.

FOR YOUR INTEREST

Failure to record expenses can have serious consequences. The most prominent example of a company improperly capitalising (i.e. making an expenditure an asset) involved WorldCom in the United States in the early 2000s, which overstated profit by approximately $9 billion. This was allegedly accomplished by improperly reducing its operating expenses by treating them as capital assets; that is, treating them as an asset and amortising the asset over time. As a result, the company materially understated expenses and overstated profits in order to meet analysts' forecasts.

HOW'S YOUR UNDERSTANDING?

13D Do any of the following result in an expense during the year?

- **(i)** $80 000 of prepaid rent expired during the year
- **(ii)** Wages payable of $3000 was paid
- **(iii)** $20 000 of inventory became obsolete
- **(iv)** Increased the allowance for doubtful debts by $32 000

13.4 Statement of profit or loss and other comprehensive income

LO5 LO6 LO7

In Australia, under AASB 101 (paragraph 81), the name of the key statement in published financial statements providing information on a company's financial performance is the statement of profit or loss and other comprehensive income (also known as the statement of comprehensive income). Commonly, you will see companies present two statements, the first of which uses the familiar title of income statement to present profit or loss information as well as a separate statement of other comprehensive income.

Comprehensive income is defined as the change in equity during the period other than changes associated with transactions with owners in their capacity as owners. Comprehensive income is broken down into profit or loss and other comprehensive income. Other comprehensive income is not defined in AASB 101 (paragraph 7) as items of income and expense that are not required or permitted to be recognised in profit or loss. Fortunately, some examples assist us to understand this definition. Items that would be included in other comprehensive income are changes in the revaluation surplus (due to revaluation of property, plant and equipment or intangible assets; see Chapter 10); remeasurement of defined benefit plans for corporate-sponsored superannuation funds; gains and losses on translation of foreign financial statements; and a number of complex issues related to the application of fair values of financial instruments (fair value was discussed in Chapter 6).

The following is required to be included in the statement of profit or loss and other comprehensive income disclosures under AASB 101:

1. revenues
2. expenses
3. finance costs
4. gains and loss related to reclassification or derecognition of financial assets
5. shares of net profits or losses of associates and joint ventures accounted for using the equity method (discussed in Chapter 12)
6. income tax expense
7. discontinued operations
8. profit or loss
9. profit or loss attributable to non-controlling interests and owners of the parent company (discussed in Chapter 12)
10. comprehensive income attributable to non-controlling interests and owners of the parent company (discussed in Chapter 12)
11. total other comprehensive income
12. comprehensive income for the period, being the total profit or loss and other comprehensive income.

Some further explanations of the terms above are now given:

- For material income or expense items, the nature and the amount should be separately disclosed. Examples include inventory or property, plant and equipment write-downs, restructuring costs, disposals of property, plant and equipment or investments, discontinued operations or litigation settlements.
- The equity method refers to the situation in which an investing company has significant influence over, but not control of, an investee company (an investee company is called an associate company of the investor). Using the equity method, the investing company includes, in its income statement, its share of earnings of the investee company, because it is in a position to significantly influence that company's performance (refer to Chapter 12).
- Outside equity interests in net profit is a deduction from profit. It is an amount reflecting the share of profit, earned by consolidated companies, that is attributed to owners other than the parent company. For example, if CSR owns 80 per cent of a company, 100 per cent of the income and expenses are included in the consolidated figures, but 20 per cent of that company's net profit is deducted as an outside equity interest, so that consolidated net profit only includes CSR's 80 per cent share.

As an illustrative example, we have in Exhibit 13.1 the income statement for Qantas (numbers refer to the numbers at the left side of the financial statement):

1. The statement is labelled 'Consolidated Income Statement'.
2. Qantas figures are in millions.
3. Qantas shows revenue and other income ($16 057 million). It divides up the revenue on the face of the income statement. Some other companies do it in the notes.
4. It refers to 'share of net loss of investments accounted for under the equity method', of $7 million.
5. Qantas shows earnings before interest and tax (EBIT) ($1370 million). It is referred to as statutory profit before income tax expense and net finance costs. Qantas provides details of its expenses on the face of the report. The three biggest expenses are: manpower and staff related ($4033 million), fuel ($3039 million) and aircraft operating variable ($3436 million).
6. Qantas adds on finance income (interest revenue) and deducts finance costs (mainly interest expense) to obtain net finance costs ($189 million) and then statutory profit before income tax ($1181 million).
7. It deducts income tax expense to arrive at the net profit figure. The net profit figure is sometimes described as the 'bottom line'; Qantas made a profit of $853 million.

EXHIBIT 13.1

QANTAS GROUP

1 CONSOLIDATED INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE 2017

2		Note	2017 $m	2016 $m
	Revenue and other income			
	Net passenger revenue		13 857	13 961
	Net freight revenue		808	850
	Other	2(B)	1 392	1 389
3	Revenue and other income		16 057	16 200
	Expenditure			
	Manpower and staff related		4 033	3 865
	Fuel		3 039	3 250
	Aircraft operating variable		3 436	3 346
	Depreciation and amortisation		1 382	1 224
	Non-cancellable aircraft operating lease rentals		356	461

4	Share of net loss of investments accounted for under the equity method		7	–
	Other	3	2 434	2 411
	Expenditure		14 687	14 557
5	Statutory profit before income tax expense and net finance costs		1 370	1 643
6	Finance income	4	46	65
6	Finance costs	4	(235)	(284)
6	Net finance costs	4	(189)	(219)
6	Statutory profit before income tax expense		1 181	1 424
7	Income tax expense	5	(328)	(395)
7	Statutory profit for the year		853	1 029
	Attributable to:			
	Members of Qantas		852	1 029
	Non-controlling interests		1	–
	Statutory profit for the year		853	1 029

Qantas Annual Report 2017. Positioning for Sustainability and Growth, p. 56.

Accounting standards require that companies present an analysis of expenses using a classification based on either the nature of the expenses or their function within the entity – whichever provides information that is reliable and more relevant to the decision-making needs of users. The choice is likely to depend on historical and industry factors as well as the nature of the business.

AASB 101 paragraphs 102–103 explain the alternative presentation formats as follows:

> The first form of analysis is the 'nature of expense' method. An entity aggregates expenses within profit or loss according to their nature (for example, depreciation, purchases of materials, transport costs, employee benefits and advertising costs), and does not reallocate them among functions within the entity. This method may be simple to apply because no allocations of expenses to functional classifications are necessary. An example of a classification using the nature of expense method is as follows:

Revenue		X
Other income		X
Changes in inventories of finished goods and work in progress	X	
Raw materials and consumables used	X	
Employee benefits expense	X	
Depreciation and amortisation expense	X	
Other expenses	X	
Total expenses		(X)
Profit before tax		X

> The second form of analysis is the 'function of expense' or 'cost of sales' method and classifies expenses according to their function as part of cost of sales or, for example, the costs of distribution or administrative activities. At a minimum, an entity discloses its cost of sales under this method separately from other expenses. This method can provide more relevant information to users than the classification of expenses by nature, but allocating costs

to functions may require arbitrary allocations and involve considerable judgement. An example of a classification using the function of expense method is as follows

Revenue	X
Cost of sales	(X)
Gross profit	X
Other income	X
Distribution costs	(X)
Administrative expenses	(X)
Other expenses	(X)
Profit before tax	X

Australian Accounting Standards Board (©) Commonwealth of Australia (2015).

One way to think of the difference between the two methods of presentation of expenses is as follows. In the nature of expense method all depreciation costs and employee costs are grouped together under headings of 'depreciation' and 'employee costs', but in the function method instead of showing these in one figure they would be split across functions: depreciation and employee benefits would be included in cost of sales (depreciation of factory equipment; factory wages); in distribution costs (depreciation of delivery vans; salaries of delivery drivers) and in administrative costs (depreciation of office computers and administrative wages).

13.5 Statement of changes in equity

LO8

In addition to the balance sheet, the statement of profit or loss and other comprehensive income, the statement of cash flows and the notes to the financial statements, there is now a requirement for a statement of changes in equity. While most items of income and expense are included in an income statement, AASB 101 (paragraph 88) requires an entity to 'recognise all items of income and expense in a period in profit or loss unless an Australian Accounting Standard requires or permits otherwise'.

Situations where items outside the current period may be included are fairly rare and include correction of errors and the effect of changes in accounting policies. Other Australian Accounting Standards require some gains and losses (such as revaluation increases and decreases, particular foreign exchange differences, gains or losses on remeasuring available-for-sale financial assets, and related amounts of current tax and deferred tax) to be recognised directly as changes in equity. Because it is important to consider all items of income and expense in assessing changes in an entity's financial position between two reporting dates, this Standard requires the presentation of a statement of changes in equity that highlights an entity's total income and expenses, including those that are recognised directly in equity.

While the above gains and losses are beyond the scope of this book (except asset revaluations, which were discussed in Chapter 10), you will see these statements of changes in equity in annual reports; therefore, it is useful to know what they are trying to achieve. The idea is that the statement of changes in equity is to provide a full picture of all income and expense items, regardless of whether they were included in the income statement or recognised direct to equity.

While the above is quite complex, one important issue that is far more straightforward is the change in retained earnings (retained profits) for the period. You will recall from earlier discussions in this book (Chapter 2) that retained profits represent profits earned by the entity over its life that have not been distributed as dividends.

Therefore, for each entity there will be a note (or part of the statement of changes in equity) showing, for retained earnings:

Balance at the start of the period	X
+/− changes in accounting policy or correction of errors	X
Restated balance	X
Profit/(Loss) for the period	X
Other comprehensive income	X
Total comprehensive income for the period	X
Less dividends	X
Balance at the end of the period	X

13.6 'What if' (effects) analysis

LO9 Suppose you are a financial analyst trying to determine what a recently released set of financial statements tells you about a company's performance. You can do various standard analyses (as will be described in Chapter 15), but before you do that you find that the company's accounting isn't quite comparable to that of another company you want to compare it to, or that the company has used an accounting method you don't agree with. You therefore want to alter the numbers to show a 'what if' scenario if the company used the other company's accounting method, or a method you do agree with.

Or perhaps you are the managing director of a company, and you are assessing some alternative accounting methods to determine which would be the most appropriate for the company. You know that there are restrictions on the company's debt-to-equity ratio that have been imposed by a major lender, and that there are expectations of the year's net profit resulting from a forecast you made during a speech earlier in the year. You also know that various financial analysts examine your company's performance quite closely and that, if that performance declines, your bonus and even your job could be in jeopardy. You therefore want to know what the effects on the company's financial statements would be if the company adopted each alternative accounting method.

Such questions are very common in business. Answering them requires analysis of the accounting information: we'll call this 'what if' (effects) analysis. The ability to analyse accounting information to tell managers, bankers and others what difference various accounting choices, or business events in general, would make to the financial statements is very important to accountants. If you are going to be an accountant, you have to develop this skill. If you are not going to be an accountant, you should have some idea of what the accountants are doing in such analyses, so that you can evaluate the results they give you. You may even want to do some basic analysis yourself. Computer spreadsheets are particularly good for this sort of analysis, but you have to know what to tell the spreadsheet to do.

Examples of 'what if' (effects) analysis

A good way to think about what would result if one method were used instead of another, or if one event happened instead of another, is to figure out the accounting numbers both ways and compare them. There are shortcuts to this, and if you see one, go ahead and use it! But for now, let's take the longer (and hopefully clearer) way.

EXAMPLE A: REVENUE RECOGNITION, DURING OR AFTER PRODUCTION

In section 13.2, you saw the example of Greenway Construction, which uses percentage of completion to recognise its construction revenues and expenses. Suppose the company's banker, who was more familiar with revenue recognition at completion of production (i.e. on completion of the contract), wanted to know what difference there would be to profit if the completion of production method were used instead.

The percentage of completion project profit (totalling \$600 000 over three years) was:

- \$120 000 for year 1

- $270 000 for year 2
- $210 000 for year 3.

If revenue and expenses were recognised only at completion of the project, the project profit would be:

- $0 in year 1
- $0 in year 2
- $600 000 in year 3.

So the answer to the banker's question would be that profit would be:

- $120 000 *lower* in year 1
- $270 000 *lower* in year 2
- $390 000 *higher* in year 3.

There has been no change in the three-year total, but the yearly figures are rearranged if the completion of production method is used.

EXAMPLES OF INCOME TAX EFFECTS IN THIS ANALYSIS

Suppose Greenway Construction pays income tax at a rate of 30 per cent. What effect would that have on our figures above? The answer is that the income tax reduces all the effects by the tax rate, because that proportion goes to the government. As you'll see below, a useful rule is to just multiply the before-tax effect by (1 − tax rate), in this case (1 − 0.30) = 0.70.

Here is a table of the effects, before and after income tax (for presentation purposes, Greenway's figures are in thousands of dollars):

Greenway			
Year	Gross effect 100% $	Tax effect 30% $	After-tax effect 70% $
1	(120 000)	(36 000)	(84 000)
2	(270 000)	(81 000)	(189 000)
3	390 000	117 000	273 000
Total	0	0	0

Income tax reduces both positive and negative differences. The assumption here is that an increased profit is taxed, and a decreased profit produces tax savings (by reducing tax payable on other profit or creating tax credits that can be used to get refunds on past years' taxes or reduce future taxes).

Without knowing the details of the income tax law (which are beyond the scope of this book), we cannot say for sure how much of the income tax effect is current and how much is deferred.

EXAMPLE B: NET OF TAX ANALYSIS

Revenues and expenses can be considered to increase or decrease income taxes on their own, and therefore the effects on net profit of changes in revenues and expenses can be estimated directly, net of tax, once the income tax rate is known (or approximated). Here's how it works. Suppose Alcatraz Fencing Ltd has one revenue, one expense and an income tax rate of 30 per cent. Its income statement might look like this:

	$000
Revenue	1 000
Expense	700
Profit before income tax	300
Income tax expense (30%)	90
Net profit after tax	210

Note that the net profit after tax (usually referred to as 'net profit') is 70 per cent of the profit before tax. We can state this in a formula, as suggested above:

Net profit = (1 – tax rate) × Profit before income tax

You can look at net profit as the residual after the income tax has been deducted. But this works just as well for the revenues and expenses. Suppose we recast the income statement as if the revenues and expenses were taxed directly, so that they are shown net of tax, and the income tax effect is, therefore, included in them rather than being a separate expense:

	Original $000	Net of tax $000
Revenue (net = $1000 × (1 – 0.30))	1 000	700
Expense (net = $700 × (1 – 0.30))	700	490
Profit before income tax	300	
Income tax expense (30%)	90	
Net profit	210	210

The net-of-tax way of looking at things can be very useful analytically. Suppose the general manager of Alcatraz Fencing has a plan to increase revenue by $200 000 without any increase in the $700 000 expense. What would that do to net profit? The new net profit would be higher by $200 000 × (1 – 0.30) = $140 000, and so would be $350 000 ($210 000 + $140 000). There is no need to recalculate the whole income statement.

If you are doubtful, you can always do the analysis the longer way, by recalculating the income statement:

	$000
New revenue	1 200
Expense	700
New profit before tax	500
New tax expense (30%)	150
New net profit	350

Net-of-tax analysis got us to this answer more quickly by focusing just on what *changes*.

HOW'S YOUR UNDERSTANDING?

13E A company had revenues of $10 499.7 million in a recent year. Its income tax rate was 30 per cent. If its revenues increased by 2 per cent, with no effect on expenses other than income tax, what would be the effect on net profit for that year?

13F Hinton Ltd has found an error in its sales revenue account: an invoice for $1400 was recorded as revenue in 2018 when it should have been recorded in 2019. The company's income tax rate is 30 per cent and there was no corresponding error in cost of goods sold. What is the effect of the error on:

(i) 2018 net profit
(ii) 2018 cash from operations
(iii) 2019 net profit
(iv) retained profits at the end of 2018
(v) retained profits at the end of 2019?

13.7 Managers and the recognition of revenues and expenses

Profit determination is of vital interest to both shareholders and managers, as it is a key component in their performance evaluation. As profit depends on revenue recognition and expense recognition, an understanding of these concepts is important when various decision alternatives are being considered by management. LO3

Revenue and expense recognition also require many different judgements by managers. For example, assume a company is involved in long-term contracts and uses the percentage of completion method to recognise revenues. Two examples of judgements that need to be made by management are: (a) how to calculate the percentage of completion for each year; and (b) at what point can the outcome of the contract be reliably estimated. With respect to the first point, managers must decide whether to use such methods as physical estimates (e.g. percentage of kilometres completed on the construction of a 200-km highway), or the proportion of costs incurred to date compared to the estimated total costs. While the outcome of a contract is never certain until it is completed, the percentage of completion method allows managers to recognise profit earlier, provided the outcome is reliably estimated.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Revenue recognition

Discuss when the following organisations are likely to recognise revenue.

1. CPA Australia for membership fees.
2. UNSW for student tuition fees.
3. The Melbourne Cricket Ground membership fees.
4. An advertising company that produces and arranges for the airing of an advertisement on TV.
5. A retailer of photocopying machines to universities. The cost includes free servicing for two years.
6. A golf manufacturer that provides golf equipment to golf courses for sale. The golf course holds them for six months to try to sell them and if not returns them to the golf manufacturer. The golf courses are not invoiced by the manufacturer until they sell the golf clubs.

PRACTICE PROBLEM B

Expense recognition

Indicate if each of the events described below gives rise to a revenue or an expense under the Framework. If they do, what would be the other side of the transaction?

1. A bank loan of $30 000 is obtained, with the company signing an agreement to repay the amount in six months, together with interest of 6 per cent.
2. Electricity used in the past month, worth $1540, has not been paid for.
3. A $3000 cheque is received from a tenant for three months' rent in advance.
4. A company signs a two-year employment contract with a marketing manager for $250 000 per year. The marketing manager will start work next month.
5. Wages of $34 000 are owing to employees at year-end for work done during the year.

PRACTICE PROBLEM C

Percentage of completion versus completed contract

On 1 January 2017, Romulus Ltd signed a contract worth $21 000 000 to construct a light rail from A to B. The light rail was to be built over three years, with progress payments of $7 000 000 to be made at the end of each year. Estimated costs were $15 000 000 and the following costs incurred and paid by Romulus Ltd were in accordance with estimates and represented the percentage completed in each year:

- 2017: $8 000 000
- 2018: $5 000 000
- 2019: $2 000 000

The project was completed in December 2019.

1. Using the percentage of completion method, what profit would Romulus Ltd report in 2017?
2. Using the percentage of completion method, what profit would Romulus Ltd report in 2018?
3. Using the percentage of completion method, what profit would Romulus Ltd report in 2019?
4. Using the completion of production method, what profit would Romulus Ltd report in 2019?

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 Consider a business that sells goods on credit and generally receives cash about 30 days later. Is revenue recognition at point of sale or when cash is received likely to be more relevant to users?
2 What criteria are used to recognise revenue?
3 Compare revenue recognition under the percentage of completion and completed contract methods.
4 What conditions need to be met before income/revenue can be recognised?
5 What conditions need to be met before expenses can be recognised?
6 An income statement shows profit and loss for the period and total changes in equity other than those resulting from transactions with owners as owners. Provide three examples of these changes in equity.
7 You are told by a friend who builds upstairs extensions to houses that he estimates the profit on a job at the time of quoting, and recognises 10 per cent of profit each week based on the fact that most jobs take 10 weeks. Do you agree with his approach?
8 Explain why revenue is sometimes recognised at the point of sale. When would it be appropriate to recognise revenue at the time of production?
9 Describe the matching principle. How is it dealt with in the Framework?
10 Would a large write-down of inventory that has become obsolete be included as an expense? Why, or why not?
11 What is the main benefit of providing separate disclosure of significant items?

PROBLEMS

PROBLEM 13.1

Revenue recognition

Discuss when each of the following businesses would be likely to recognise revenues:
1 A shipbuilding company.
2 A magazine company for which yearly subscriptions are received yearly in advance and where the magazines are posted each month.
3 A coal-mining company that has a long-term contract to supply a local company at a set price.
4 A printer.
5 An installer of hot-water systems.
6 A telecommunications company that provides local and interstate calls.
7 An airline.
8 A real estate developer who constructs 'speculative' houses and later sells them.
9 An engineering business that receives orders for special-purpose machinery accompanied by deposits.
10 A meat pie stand at a football ground.

PROBLEM 13.2

Revenue recognition

State whether each of the following would be recognised as revenue under the Framework.
1 Issue of shares for $4 million.
2 Cash sales by a retailer of $130 000.
3 Credit sales of $360 000 by a manufacturer of refrigerators.
4 Sold equipment to a company for $400 000. The equipment has been delivered.

5 Received an order for custom-designed invitations. Agreed to complete in two weeks. Received $900 deposit with remaining $400 to be paid on delivery.
6 A company receives a year's rent in advance. The tenant cannot withdraw from the contract.

PROBLEM 13.3

Expense recognition

For each of the following expenses, state what the other side of the journal entry would be. If it is not an expense, write 'no expense'.

1 Insurance expense (amount paid last year).
2 Wages (to be paid next period).
3 Advertising that appeared on TV last week and the invoice to be paid next month.
4 Dividend proposed and paid.
5 Supplies (recorded as asset supplies) used up during the period.
6 Depreciation.

PROBLEM 13.4

Revenue and expense recognition

Knowledge Ltd provides one-day training programs on accounting. It charges $5000 per day. The following events occurred during May 2019.

a Received $20 000 from accounts receivable for sales in previous months.
b Paid three months' rent of $9000 that covers the period 1 May 2019 to 31 July 2019.
c Received orders for 70 days of training during the month. Delivered 50 of the days of training during the month and received payment for 30 of these days.
d Signed a contract to design a special program for lawyers at a price of $20 000. Design will commence in July. Received a $5000 deposit.
e Paid $400 000 for new equipment and $20 000 to install it.
f A contract was signed with a new CEO for $700 000 per year. The CEO will start on 1 July.
g Paid wages during the period of $60 000 with accrued wages of $5000 owing at the end of the month.
h Borrowed $12 000 on 1 May from the bank at 10 per cent per annum. Interest and principal repayable in three months.

Required:

1 Determine total revenue for the month of May 2019.
2 List all expenses for the month of May 2019.

PROBLEM 13.5

Likely revenue recognition policies for various cases

When is a sale a sale? When does the accounting system recognise revenue as having been earned? Indicate what you think would be the revenue recognition policy in each of the following cases. Remember to think about: (a) whether the general criteria for revenue recognition have been met; (b) the concept of a 'critical event' for revenues recognised all at once; and (c) the proportionate recognition that is available for revenue earned over several accounting periods:

1 coffee shop sales of coffee
2 sales of housing subdivisions
3 sales of natural gas to businesses and residences
4 magazine subscription sales
5 ticket sales for concerts
6 revenue from sales of pottery on consignment through local craft shops
7 a TV station's revenue from advertising during sports programs
8 revenues from sales of manufactured plumbing products
9 computer store sales of software

10 department store revenue from clothing sales (some people pay cash; some use their store credit cards; some use other credit cards; and some return their purchases after deciding they don't like them)
11 a gardener's revenues from contract landscaping work for home owners.

PROBLEM 13.6

Real company's revenue, expense recognition

Using the financial statements of any company you are interested in, write a comprehensive review of the company's revenue and expense recognition policies. Cover such points as:

1 What the nature of the company's business is and how it earns its revenue and incurs its expenses.
2 What the company's financial statements and notes disclose about its important revenue and expense recognition policies.

PROBLEM 13.7

Choose suitable revenue recognition policies

In each of the following independent cases, indicate when you think the company in question should recognise revenue. Support your decision with reference to the generally accepted criteria for revenue recognition.

1 Outback Gold mines and refines gold. To sell the gold, the company waits until it feels the market price is favourable. The company can, if it wishes, sell its entire inventory of gold at any time at the prevailing market price.
2 Crazy Freddie sells cheap furniture on an instalment plan. His customers take delivery of the furniture after making a down payment. Over the past year, Crazy Freddie has had to repossess over 50 per cent of the furniture sold, because of customers defaulting on payments.
3 Tom and Mark's Construction undertakes long-term construction contracts. The company only accepts contracts that will pay a fixed fee. Costs can be estimated with reasonable accuracy, and there has never been a problem collecting from customers.
4 Cecily Cedric is a toy manufacturer producing toys that are shipped to various retail customers upon receipt of their purchase orders. Sales are billed after shipment. The company estimates that approximately 2 per cent of credit sales prove to be uncollectable.

PROBLEM 13.8

Identify items as revenues or expenses

State whether or not, and why, each of the following items is likely to be a revenue or an expense for this year for the company indicated:

Company		Item
1	Amcor	Cost of advertising for new employees
2	National Australia Bank	Cost of renovating its main Perth branch
3	Woolworths	Increased value of the land under certain department stores
4	Subway	Food sold to customers who paid with their Visa cards
5	Harvey Norman	Money paid by customers in advance on special furniture orders
6	Ford Motor Co.	Income taxes paid in the United States
7	BHP Billiton	Special good-performance bonuses promised this year but not to be paid until next year
8	BHP Billiton	Special dividend to owners, all of whom are also employees
9	Amcor	Cost of scientific research aimed at developing new products
10	Rio Tinto	Estimated amount of money needed to provide long service leave to this year's employees to be paid in the future
11	Coles	Goods lost to shoplifting
12	Coles	Salary of a floorwalker who tries to catch shoplifters

PROBLEM 13.9

Expense recognition

Indicate whether each of the events described below gives rise to an expense under the Framework. If the event does give rise to an expense, what would be the other side of the transaction?

1. A temporary excess of cash is used to purchase $40 000 of shares in BHP Billiton.
2. $10 000 is paid as a deposit on custom-designed equipment, to be completed and delivered next year. The total purchase price of this equipment will be $50 000.
3. A supplier sends notice that $1000 of raw materials have been shipped by freight, with payment due in 30 days. The buyer obtains title to the goods as soon as they are shipped by the seller.
4. A customer places an order for $800 worth of goods.
5. A production manager has been hired to oversee the company's operations, with employment commencing next month. One-twelfth of the annual salary of $108 000 is to be paid at the end of each month worked.
6. Inventory is acquired at a list price of $1500, with payment made in time to secure a 2 per cent discount for prompt settlement. Cash discounts are treated as a reduction in the acquisition cost of the inventory.

PROBLEM 13.10

Recommend revenue and expense recognition policy

Gary Slapstick Promotions Ltd (GSP) acquired the rights to use the names of a number of football players on life-sized stuffed dolls it purchases from a toy manufacturer. The dolls are marketed through mail-order advertisements in the TV-listings inserts of large newspapers. When an order is received (with a money order, cheque or credit card number), GSP contacts the toy manufacturer. The toy manufacturer is responsible for manufacturing and shipping the doll to the lucky boy or girl. GSP is notified at the time of shipment. The customer has the option of returning the doll within two weeks of the day it is received. GSP pays the toy manufacturer within 30 days of delivery. Response to the dolls this Christmas has been overwhelming. In fact, the toy manufacturer is working extra shifts to try and keep up with the demand.

1. Identify three points in time at which GSP could recognise revenue on the dolls. Which would you recommend? Why?
2. Identify two different points in time at which the toy manufacturer could recognise revenue on the dolls.
3. Discuss how GSP should account for its payments to football players for the right to use their names. (Assume that each player is paid a lump sum initially and a royalty on each doll sold that uses his name.)

PROBLEM 13.11

Effects analysis: expensing versus capitalising, plus tax

The controller of Squiffle Ltd is having some disagreements with senior management about some company accounting policies. Squiffle, in business for only a year, has capitalised $67 000 in development costs. The controller argues that such costs should be expensed instead. Assume that this accounting policy affects current income tax liability and that the company's income tax rate is 30 per cent. What would the controller's proposal do to:

1. the current year's net profit?
2. the current year's cash flow?

PROBLEM 13.12

Franchise revenue amounts and policies

Pickin' Chicken Ltd and Country Delight Ltd both sell franchises for their chicken restaurants. The purchaser of the franchise (the franchisee) receives the right to use Pickin' Chicken's or Country Delight's products and benefit from national training and advertising programs for 10 years. The buyers agree to pay $50 000 for a franchise. Of this amount, $20 000 is paid upon signing the agreement and the remainder is payable in five equal annual instalments of $6000 each.

Pickin' Chicken recognises all franchise revenue when franchise agreements are signed. Country Delight recognises franchise revenue as cash is received. In 2012, the companies each sold eight franchises. In 2014, they each sold five. In 2018 and 2019, neither company sold a franchise.

1 Determine the amount of franchise revenue recognised by each company in 2012, 2014, 2018 and 2019.
2 Do you think that revenue should be recognised when the franchise agreement is signed, when cash is received, or over the life of the franchise agreement? Why? Fully support your answer.

PROBLEM 13.13

Company transactions

The following transactions occurred for Andrew Ltd for the year ended 30 June 2019:

a Income tax expense for the current period was determined at year-end.
b Ordinary dividends declared are paid.
c One shareholder sold its shares in Andrew Ltd to another company. The shares were sold at a loss.
d A fire destroyed most of Andrew's inventory. The inventory was uninsured.
e The price of shares in Andrew Ltd fell.
f Accounts payable were paid.
g Andrew Ltd provided for future warranty claims.
h Depreciation was charged on a building.
i A provision was created for obsolete stock.
j Internally generated goodwill declined throughout the year.
k Andrew Ltd may be liable for damages incurred by a consumer using one of its products. It is likely that some payment will be required. The amount is dependent upon the outcome of a court case.
l A bad debt was written off. No amount had been provided in previous years.

Required:
Which of the above transactions would result in an expense for the year?

PROBLEM 13.14

Interpret revenue recognition notes

BHP Billiton is the world's largest diversified resources company. Its core operations involve production of aluminium, copper, zinc, iron ore, diamonds, oil and gas.

Read the following excerpt from the 2017 annual report of BHP Billiton.

> **Sale of Products**
> Revenue is recognised when the risk and rewards of ownership of the goods have passed to the buyer based on agreed delivery terms and it can be measured reliably. Depending on customer terms this can be based on issuance of a bill of lading or when delivery is completed as per the agreement with the customer.
>
> BHP Billiton, *Annual Report 2017*, p. 163
> (https://www.bhp.com/-/media/documents/investors/annual-reports/2017/bhpannualreport2017.pdf)

Explain when BHP recognises revenue in terms that your fellow students will understand.

PROBLEM 13.15

Percentage of completion versus completed contract

Multi-Storey Builders Ltd had a large three-year project with total revenue of \$8 000 000 and estimated total costs of \$6 500 000. The project was 20 per cent complete at the end of the first year, 70 per cent complete at the end of the second year, and 100 per cent complete at the end of the third year. Revenues and costs were as estimated.

1 What profit was earned during the first year if the percentage of completion method was used?
2 What profit was earned during the second year if the percentage of completion method was used?
3 What profit was earned during the third year if the percentage of completion method was used?
4 What profit was earned during the second year if the completed contract method was used?

PROBLEM 13.16

Percentage of completion

Tall Constructions Ltd had a large three-year project with total revenue of $5 500 000 and estimated total costs of $4 500 000. The project was 30 per cent complete at the end of the first year, 65 per cent complete at the end of the second year, and 100 per cent complete at the end of the third year. Revenues and costs were as estimated.

1 What profit was earned during the first year if the percentage of completion method was used?
2 What profit was earned during the second year if the percentage of completion method was used?

PROBLEM 13.17

Effects of proposed policy of capitalising improvements costs, with income tax

Senior management of Telemark Skiing Ltd wishes to capitalise $2 650 000 in ski-hill improvement costs expended this year, and amortise the capitalised costs over 10 years, rather than just expensing them all as is now done. The company's income tax rate is 30 per cent, and the company would plan to continue deducting the costs as expenses in computing income tax payable for this year, assuming the tax authorities would permit that. What would be the effect on this year's net profit?

CASES

CASE 13A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 Which of the notes under significant accounting policies (note 1) deal with revenue and expense recognition?
2 Select three notes related to expense recognition and prepare an alternative policy for the recognition of the expense. Does your alternative increase or decrease profit for the year?
3 Find the dollar values for each of the following for 2017:
   a total sales revenue
   b cost of goods sold
   c depreciation
   d interest expense
   e income tax expense
   f net profit attributable to outside equity interests.
4 What is meant by profit attributable to non-controlling interests?
5 Why does comprehensive income (as reported on the statement of comprehensive income) differ from profit for the period (reported on the income statement)? Identify the major items which explain this difference.

CASE 13B Cricket, revenue recognition and expense recognition

The Sydney Cricket Ground Trust released the following offer:

Premium collectables Steve Waugh fine art limited edition print

Now you can own this magnificent piece of official ACB memorabilia – a limited edition fine art print of Australian cricket captain, Steve Waugh.

Renowned Australian sports artist Mark Sofilas has produced this fine art print of Steve Waugh to honour a great cricketing legend.

There are only 1500 of these limited edition prints, each one individually signed and numbered by Steve Waugh and Mark Sofilas, with a certificate of authenticity accompanying each print.

- Retail price (unframed): $275 each (plus $10 postage)
- Trust members' price: $250 (plus $10 postage)
- To order, complete the order form and return to the Trust
- Allow 30 days for delivery.

Source: Sydney Cricket Ground Trust.

1 Assume the Trust is the promoter of the limited edition prints (i.e. it receives all revenues and pays all costs). Describe the alternatives the Trust has in relation to when it recognises revenue. Which would you suggest?
2 How would your answer differ if the Trust included an offer that the prints could be returned within two months if the purchaser is not completely satisfied? The purchaser would receive a refund of $200.
3 Assume the Trust is not the promoter but is a selling agent; that is, it sends out the brochures, collects the order forms, retains 20 per cent ($55) per print and passes the order on to the promoter, which fills the order. Assume a no-refund policy. When should the Trust recognise revenue?
4 Does the accounting profession have the skills to provide the certificate of authenticity? Do you believe the Trust, or any other seller of collectables, is likely to see advantages in members of professional accounting bodies providing this certificate of authenticity?
5 A Trust member was sitting behind two accounting students at a recent match and heard them discussing cost of goods sold. He shows you the above brochure, buys you a beer each and asks you what the COGS would be for the limited edition print.
6 Assume Steve Waugh receives a flat fee for signing the prints. When would the Trust recognise this expense?
7 Assume Steve Waugh gets paid a commission based on sales. When would the Trust recognise this expense?

HOW'S YOUR UNDERSTANDING SOLUTIONS

13A (i) Percentage of completion method based on a physical criterion (e.g. percentage of floors completed) or a percentage of total costs incurred at this point in time.
(ii) Likely at the point of sales where students hand over cash or more likely their credit card.
(iii) It is likely to depend on the contract. For example, for a yearly membership, it may be 1/12 each month. If it is sold on say 10 visit passes, it could be at the time of each visit or more likely split across the year (lots of these passes are never used).
(iv) Usually when the plane takes off as the airline has then provided the service.
(v) While tickets are sold many months in advance of the event, it is likely that revenue is recognised on each of the 14 days of the event.

13B $11 210 (38% × 29 500); $5130 ([43 000 − 29 500] × 38%)

13C (i) 1 per cent of $100 = $1; that is, revenue only includes gross inflows received by the entity on its own behalf, not amounts collected on behalf of third parties.
(ii) The revenue is $100 and $1 would be collection expenses. Note that this gives a profit of $99. If the company only recorded $99 as revenue and no expense, profit would be the same but note that it does impact various ratios (to be discussed in more detail in Chapter 15).

13D (i) Yes, $80 000 rent expired.
(ii) No, this is a reduction in a liability and an asset.
(iii) Yes, $20 000 for inventory writedown expense.
(iv) Yes, $32 000 for doubtful debts expense.

13E Revenue effect = 2% × $10 499.7 = $210.0 million more revenue.
Net profit effect = $210 (1 − 0.30) = $147.0 million higher.

13F (i) $1400 (1– 0.30) = $980 too high
(ii) no cash effect
(iii) $980 too low
(iv) $980 too high
(v) no effect as the sum of 2018 and 2019 profits is unaffected.

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1. Most likely on the basis of time, i.e. 1/12 each month.
2. Over the period of instruction.
3. Again most likely on the basis of time but it could be argued that a large proportion of membership benefits are provided by the Boxing Day cricket test and therefore a large proportion of revenue could be recognised in December each year.
4. Media commissions when the advertisement appears; production commissions on the percentage of completion or completed contract method.
5. 'When the selling price of a product includes an identifiable amount for subsequent servicing, that amount is deferred and recognised as revenue over the period during which the service is performed.' (AASB 118.13)
6. When the golf clubs are sold by the golf course.

PRACTICE PROBLEM B

1. Not at time of taking out the loan, but an interest expense will accrue each day of the loan until it is paid.
2. Yes, electricity expense.
3. No, but $1000 will be recognised as revenue each month.
4. No, no service has been provided.
5. Yes, the work has been done.

PRACTICE PROBLEM C

1. $3 200 000: 8/15 × (21 million – 15 million)
2. $2 000 000: 5/15 × (21 million – 15 million)
3. $800 000: 2/15 × (21 million – 15 million)
4. $6 million: 21 million – 15 million

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14 The statement of cash flows

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 explain the contents of a statement of cash flows (14.1)

LO2 distinguish between cash flow from operations, cash flow from investing and cash flow from financing (14.2)

LO3 prepare a statement of cash flows using the direct method (14.3)

LO4 prepare a statement of cash flows using the indirect method (14.5)

LO5 interpret a statement of cash flows (14.4, 14.6)

LO6 explain how management use cash flow information (14.7).

CHAPTER OVERVIEW

A statement of cash flows provides relevant information to users about the cash inflows and cash outflows of an entity during a financial year. Evaluating the entity's cash management is so important that the result of this analysis, called the statement of cash flows, is required by accounting standards as part of the set of financial statements.

Understanding the statement of cash flows is important for all users of accounting reports in gaining a better insight into the health of a company. Undertaking the detailed analysis that is required for preparing a statement of cash flows is a good way to cement your understanding of what the financial statements contain and the interrelationship between income statement accounts and balance sheet accounts.

14.1 The purpose of cash flow analysis

LO1 Performance in generating additional wealth for the entity, as measured by accrual profit, is very important to managers, investors, tax authorities and many others. But the world is a complex place, and there is more to performance than generating accrual profit. An additional, important aspect of performance is managing the inflow and outflow of cash so that the entity has enough cash to pay its bills, finance its growth and keep its borrowing under control. This will not be a surprise to you: everyone has to worry about cash flow, about how much cash is available, and where additional cash will come from.

No business entity can survive without cash. (Nor can other organisations, such as governments – who need to raise enough cash from taxes and other charges to meet their financial and social obligations.) Employees, suppliers and tax authorities must be paid, loans must be repaid and assets must be kept up to date. Many new and established companies have had positive net profit figures, yet have still run out of cash and gone bankrupt. Thus, it is important for present and potential investors and creditors to have information about a firm's cash inflows and outflows and its resulting cash position. Can the firm meet all its debts and obligations as they fall due (an ability commonly referred to as solvency)? Does it have enough cash and short-term assets now to cover its immediate debts and obligations (a condition commonly called liquidity)? Entities can get into difficulty by not managing their cash properly.

Conversely, some entities seem to have rather a lot of cash, raising questions about what is being done with the cash. Keeping a large supply of cash lying around idle is not the best way to earn a return for owners. The cash should be put to work by making investments, improving the buildings and equipment, attracting new customers or paying off interest-bearing debt.

The cash situation can be obscured somewhat by accrual accounting. Let's take an extreme example. Suppose a company has revenue of $100 000 but it is all on credit, and none of the customers has paid yet. In order to generate the revenue, the company has expenses of $70 000, and they all have to be paid soon. The accrual profit will be the revenue minus the expenses, or $30 000. Looks good: a 30 per cent return on revenue. But if the company has no cash to pay its expenses it could be in trouble; instead, it may have $100 000 of accounts receivable, which cannot be used to pay expenses unless the customers pay or some other way is found to get cash for the receivables. The company is likely to want to borrow money from a bank or other lender to provide it with the needed cash. How much should it borrow? Should it pressure the customers for payment? Should it ask its creditors for more time to pay the $70 000 in expenses? How will it be able to afford a planned new machine to keep its product quality competitive? All these questions concern the management of cash, and they are not easy to answer based on the accrual accounting profit.

To assist with such questions, the statement of cash flows provides information about a firm's generation and use of cash and highly liquid short-term assets, and, therefore, assists in evaluating the firm's financial viability. The analysis of cash flows provides different information from the summary of accrual-based performance in the income statement.

Numerous times earlier in the book it was shown that accrual profit is not the same as cash profit. If you are not sure why, go back to the early part of Chapter 5 for examples. Some revenues and expenses do not involve an inflow or outflow of cash in the present period. The example of uncollected revenue has already been mentioned. Depreciation is another example here: the cash flow happened close to when the asset was acquired, so the depreciation expense does not involve any current cash flow.

The purpose of the analysis of cash flow is, therefore, twofold:

- to produce a measure of performance that is based on day-to-day cash flow: cash generated by ordinary business activities, instead of accrual accounting. This measure, which the statement of cash flows calls cash flow from operations, does not imply that accrual profit is invalid; rather, it provides a different perspective on performance and therefore enhances the information for users.
- to incorporate other non-operating cash inflows and outflows, such as from investing in new assets, selling old ones, borrowing or repaying debts, obtaining new capital from shareholders or paying dividends to shareholders. By including these non-operating cash flows, the statement of cash flows can provide a complete description of how the firm's cash was managed during the period. It can tell the full story of why the firm has more, or less, cash at the end of the period than it had at the beginning.

With all this information, the user can evaluate management's strategy for managing cash and make a better judgement of the company's liquidity, solvency, risk and opportunities than could be made just from the balance sheet and income statement.

14.2 Overview of the statement of cash flows

Classification of cash flow transactions

LO2

Accounting standards suggest that for profit-seeking organisations it would be normal to divide cash flow transactions into operating activities, investing activities and financing activities.

- *Operating activities* are those activities that relate to the provision of goods and services.
- *Investing activities* are those activities that relate to the acquisition and disposal of noncurrent assets, including property, plant, equipment and other productive assets, and investments such as securities, that do not fall within the definition of cash.
- *Financing activities* are those activities that relate to changing the size and composition of the financial structure of the entity, including equity, and borrowings not falling within the definition of cash.

Exhibit 14.1 provides the classification of typical cash inflows and outflows. Note that accounting standards do allow some variation on the classifications under some circumstances but this does give you the basics.

EXHIBIT 14.1 CLASSIFICATION OF CASH FLOW TRANSACTIONS

OPERATING, INVESTING AND FINANCING

Operating receipts from:	**Investing receipts from:**	**Financing receipts from:**
Sale of goods and services	Sale of property, plant and equipment	Issue of shares
Interest or dividends received	Sale of shares and businesses held as investments	Borrowings
Payments for:	**Payments for:**	**Payments for:**
Supplies	Acquisition of property, plant and equipment	Dividend distributions
Wages of employees	Acquisition of shares and businesses for investment purposes	Share buybacks
Taxes to governments		Repayment of borrowings
Interest to lenders		

HOW'S YOUR UNDERSTANDING?

14A Given the following information, what is cash flow from operations?

	$000
Cash from accounts receivable	50
Cash sales	30
Cash from issue of shares	70
Payments to accounts payable	20
Payments for wages	15
Purchase of plant	55
Payment of taxes	35

Format of the statement of cash flows

The statement of cash flows, like the other statements, has a standard format (see Exhibit 14.2). It is useful to know, because variations from that format may be a signal of special circumstances or problems.

EXHIBIT 14.2

STATEMENT OF CASH FLOWS

STANDARD FORMAT

Operating activities

Cash generated by operations: day-to-day cash receipts and payments related to the activities that generate profit.

Investing activities

Cash used to invest in additional noncurrent assets, including investments in other companies, minus any cash proceeds obtained by disposing of such assets.

Financing activities

Cash obtained from borrowing and from issuing share capital, minus borrowing repaid or share buyback. Any cash transactions for dividends and share issue costs.

Change in cash (and equivalents) for the period

Net sum of the above three categories.

Cash (and equivalents) at the beginning of the period

Brought forward from last period's statement of cash flows and balance sheet.

Cash (and equivalents) at the end of the period

Equals what is shown on the balance sheet at the end of the period.

Some important features of this format are:

1. The statement of cash flows covers the same period as the income statement.
2. Cash includes some equivalents: very liquid near-cash assets that can be turned into cash without any risk of loss, such as demand bank deposits and certificates with a maturity of three months or less.
3. While the format is traditional, recent changes to International Financial Reporting Standards do allow some alternative classifications. For example, interest paid is allowed to be included under financing activities.
4. In some cases, cash may include temporary negative bank balances (overdrafts) if they are just a result of cash management activity and the bank balances regularly vary from positive to negative.
5. The statement of cash flows follows some rules to ensure that its focus stays on cash. For example, if a dividend has been declared but not all paid, only the paid part is included in the statement of cash flows' financing activities section. Another example: if there is an account payable for a noncurrent asset, the investing activities figure shows only the amount paid so far.
6. Following on from point 5, any asset acquisitions, borrowing or share issues that are done without cash – such as acquiring land in return for shares – are excluded from the statement of cash flows. (They would be disclosed in a note to the statement of cash flows.)
7. Any of the numbers in the statement of cash flows can be positive or negative, according to what happened during the period. For example, a really bad year can result in cash from operations being negative, in which case it might be described as cash used in operations! As another example, a company undergoing significant restructuring could have more cash coming in from selling off assets than going out to buy more, so its investing section could be a positive cash inflow instead of the usual cash outflow.
8. Deriving the cash flow from day-to-day operations is one of the main reasons for having the cash flow analysis. The cash from operations figure takes away accrual accounting's many adjustments, which are

very important in measuring profit but obscure the cash effects. To emphasise this, statements of cash flows in many countries begin with the net profit figure, then explicitly remove the effects of changes in accounts receivable, accounts payable, depreciation and other accruals. This is called the indirect method of deriving cash from operations, as distinct from the direct method of just listing operating cash receipts and deducting operating cash payments (also called disbursements). In Australia, the direct method is used with a note showing the indirect method.

Figure 14.1 compares the two methods, both of which end up with the same figure for cash from operations.

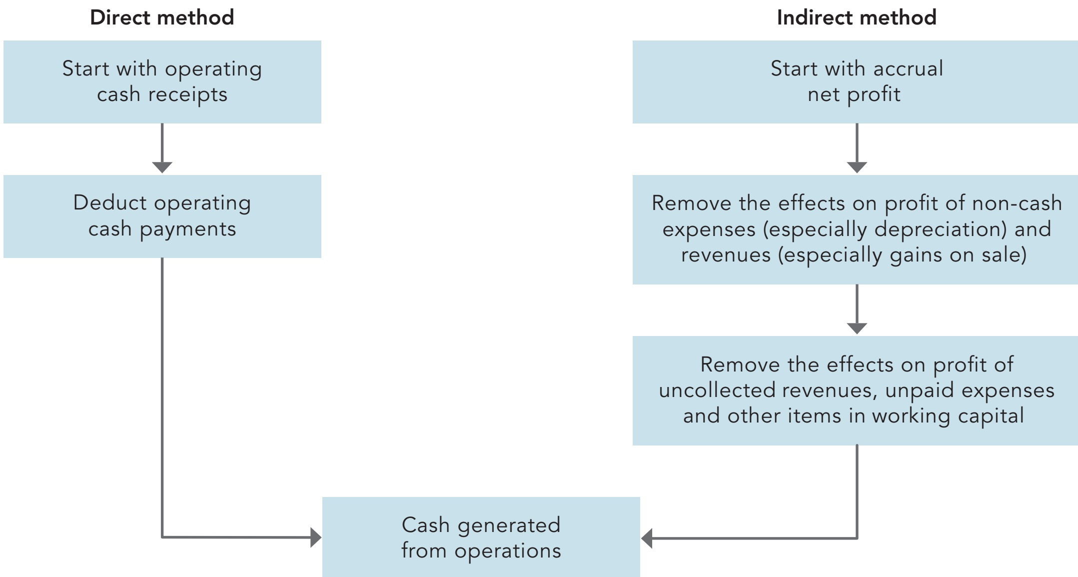

FIGURE 14.1 Comparing the direct and indirect methods of deriving cash from operations

HOW'S YOUR UNDERSTANDING?

14B Given the following information, what is cash flow from operations?

- cash sales, $100 000
- credit sales, $250 000
- cash received from accounts receivable, $170 000
- borrowings from the bank, $80 000
- issue of shares, $150 000

Direct versus indirect method of reporting cash flow from operations

Cash flow from operations can be reported using either the direct method or the indirect method. The direct method of cash flow analysis reports gross cash inflows and gross cash outflows. An example of using the direct method is shown for XYZ Limited in Exhibit 14.3.

The information for the direct method can be obtained by:

1 using the accounting system, which directly records and analyses the cash flows in relation to the cash transaction (see below)

2 adjusting sales, cost of sales and other profit and loss items for non-cash items (to be illustrated in section 14.3).

EXHIBIT 14.3

XYZ LIMITED

STATEMENT OF CASH FLOWS FOR THE FINANCIAL YEAR ENDED 30 JUNE 2019

	2019 $000	2018 $000
Cash flows from operating activities		
Receipts from customers	30 150	27 130
Payments to suppliers and employees	(27 600)	(25 040)
Dividends received	100	250
Interest received	300	270
Interest paid	(270)	(240)
Income taxes paid	(900)	(810)
Royalty received	180	–
Net cash provided by operating activities	1 960	1 560
Cash flows from investing activities		
Purchase of shares in other companies	(550)	–
Payment for property and equipment	(350)	(1 200)
Proceeds from sale of equipment	20	10
Net cash used in investing activities	(880)	(1 190)
Cash flows from financing activities		
Proceeds from issue of shares	300	200
Proceeds from borrowings	200	240
Repayment	(90)	(80)
Dividends paid	(1 200)	(1 080)
Net cash used in financing activities	(790)	(720)
Net increase/(decrease) in cash held	290	(350)
Cash at the beginning of the financial year	120	470
Cash at the end of the financial year	410	120

For an illustration of the first method, refer to the Reval Limited example in Exhibits 4.3 and 4.4 of Chapter 4. The statement of cash flows (including cash flow from operations) could be obtained by dissecting the general ledger account cash in Exhibit 4.4. You may need to refer to Exhibit 4.3 to obtain further details of some of these transactions. By summarising the entries in the cash ledger account we can see the following:

		$
1	Opening balance	25 000
2	Cash from accounts receivable	30 000
3	Cash sales	20 000
4	Cash from mortgage loan	35 000
5	Payments to accounts payable	15 000
6	Payments for repairs and maintenance	500
7	Purchase of land	40 000
8	Payments of cash for wages	12 000
9	Purchase of plant and equipment for cash	20 000
10	Closing balance	22 500

Items 2, 3, 5, 6 and 8 all affect cash flow from operations. Item 4 would be classified under financing activities. Items 7 and 9 would be classified as investing activities. The cash flow from operations would be calculated as follows:

	$
Receipts from customers (30 000 + 20 000)	50 000
Payments to suppliers (15 000 + 500)	(15 500)
Payments to employees (12 000)	(12 000)
Cash flow from operations	22 500

A full statement of cash flows from Reval Limited is shown in Exhibit 14.4.

EXHIBIT 14.4

REVAL LIMITED

STATEMENT OF CASH FLOWS FOR THE MONTH ENDED 31 MAY 2019

	$
Cash flows from operating activities	
Receipts from customers	50 000
Payments to suppliers	(15 500)
Payments to employees	(12 000)
	22 500
Cash flows from investing activities	
Purchase of land	(40 000)
Purchase of plant and equipment	(20 000)
	(60 000)
Cash flows from financing activities	
Proceeds from borrowings	35 000
Net increase/(decrease) in cash held	(2 500)
Cash at the beginning of the month	25 000
Cash at the end of the month	22 500

Australian Accounting Standards require the direct method of presentation for cash flow from operations because it provides information that is not otherwise available in the balance sheet and the income statement. Accounting Standards suggest that it provides a more useful basis for estimating future cash flows than the indirect method, which shows only the net amount of cash flows from operating activities and does not report the individual components of cash flows from operations.

Under the indirect method, the accrual-based profit figure is adjusted to get the cash flow from operations by adding or subtracting:

- adjustments to remove accruals for non-cash expenses (or revenues) arising from noncurrent asset changes, such as depreciation expense, and profit or loss on the sale of noncurrent assets
- adjustments to remove accruals for uncollected revenues, revenues received in advance, prepaid expenses and unpaid expenses, represented by changes in non-cash working capital accounts (current assets and current liabilities).

The indirect method will be discussed further in section 14.5. In Australia, it is included in the notes to the financial statements to support the information in the direct method.

HOW'S YOUR UNDERSTANDING?

14C Classify each of the following as either operating, investing or financing cash flows.

(i) payment of wages
(ii) dividends paid
(iii) issue of shares
(iv) dividends received
(v) cash sales
(vi) proceeds from the sale of equipment
(vii) borrowing from the bank
(viii) repayment of a loan

14.3 Preparation using the direct method[1]

LO3 Under the direct method of presenting cash flows from operations, it is necessary to calculate cash receipts from customers, payments to suppliers and employees, and other expense and revenue items affecting cash flows. The cash flows from investing and financing are then calculated.

We will use the information in Exhibits 14.5 and 14.6 to illustrate the direct method.

EXHIBIT 14.5

MICHAEL LIMITED

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE 2019

	$	$
Sales		421 000
COGS		151 000
Gross profit		270 000
Less: Operating expenses		
Wages	100 000	
Insurance	13 000	
Interest	20 000	
Depreciation	20 000	
Loss on sale of equipment	4 000	
Other	37 000	194 000
Net operating profit before tax		76 000
Income tax expense		27 000
Net operating profit		49 000

EXHIBIT 14.6

MICHAEL LIMITED

COMPARATIVE BALANCE SHEETS AS AT 30 JUNE 2018 AND 2019

	2019 $	2018 $
Current assets		
Cash	25 000	40 000
Accounts receivable	90 000	70 000
Inventory	62 000	45 000
Prepaid insurance	8 000	5 000
Total current assets	185 000	160 000
Noncurrent assets		
Land	400 000	200 000
Equipment (at cost)	280 000	150 000
Less: Accumulated depreciation	(58 000)	(45 000)
Total noncurrent assets	622 000	305 000
Total assets	807 000	465 000
Current liabilities		
Accounts payable	60 000	40 000
Wages payable	4 000	7 000
Income tax payable	6 000	5 000
Interest payable	11 000	10 000
Total current liabilities	81 000	62 000
Noncurrent liabilities		
Loans payable	250 000	200 000
Total liabilities	331 000	262 000
Net assets	476 000	203 000
Shareholders' equity		
Share capital	367 000	163 000
Asset revaluation surplus	50 000	0
Retained profits	59 000	40 000
Total shareholders' equity	476 000	203 000

Additional information:

- All purchases are on credit.
- Accounts payable only relates to inventory.
- Loans payable of $150 000 were paid back during the year.
- The land was revalued upwards by $50 000.
- Equipment that cost $30 000 was sold during the year.

Cash flows from operating activities

To determine the cash flows from operations using the direct method, it is necessary to convert the accrual-based figures to a cash basis for each of the items outlined below. The information for this section of the cash flow comes from the income statement and the balances for current assets and current liabilities in the balance sheet.

CASH RECEIPTS FROM CUSTOMERS

Cash receipts from customers will not be the same as sales, because not all accounts receivable will have paid by year-end. Cash received from customers will be less than sales if the balance of accounts receivable increases and will be greater than sales if the accounts receivable balance decreases. Therefore, to determine the cash received from customers, we need the sales figure from the income statement and the opening and closing balances of accounts receivable from the balance sheet.

To understand the relationship between accounts receivable, sales and cash received from customers, you may need to think through the debits and credits affecting the accounts receivable account. To keep things simple at this stage, we will assume that all sales are on credit and that there are no bad debts.

Accounts receivable increases when credit sales are made:

DR	Accounts receivable
CR	Sales

Accounts receivable decreases when cash is received:

DR	Cash
CR	Accounts receivable

As a result, the accounts receivable account would normally appear as follows:

Accounts receivable			
Opening balance		Cash received from customers	
Credit sales			
Closing balance			

Alternatively, for the accounts receivable account it can be expressed as follows:

Opening balance + Credit sales – Cash received from customers = Closing balance

or

Cash received from customers = Credit sales + Opening balance – Closing balance

For Michael Limited, whose financial statements are shown in Exhibits 14.5 and 14.6, the cash receipts for customers can be determined given that we know that the opening and closing balances of accounts receivable were $70 000 and $90 000, respectively; and, from the income statement, that credit sales were $421 000.

Accounts receivable			
Opening balance	70 000	Cash	**401 000**
Credit sales	421 000		
Closing balance	90 000		

Alternatively, using the formula above:

Cash received from customers = 421 000 + 70 000 – 90 000
= 401 000

HOW'S YOUR UNDERSTANDING?

14D It is important for you to understand what goes into an accounts receivable account and an inventory account. What is the journal entry for credit sales of $100 000 of goods that cost the company $70 000?

14E The opening and closing balances of accounts receivable were $100 000 and $180 000 respectively. Sales on credit were $300 000. What was the amount of cash received from customers?

CASH PAID TO SUPPLIERS

To calculate the cash paid to suppliers requires a two-stage process. First, it is necessary to calculate the amount of purchases. This can be found from the inventory account, given that you know the opening and closing balances of inventory from the balance sheet and the cost of goods sold used in calculating net profit.

Recall that the main journal entries that affect accounts payable are as follows:

- purchase of inventory on credit (assuming *perpetual inventory method*):

DR	Inventory
CR	Accounts payable

- payment to suppliers:

DR	Accounts payable
CR	Cash

Assuming that all inventory is purchased on credit, we can determine the cash paid to suppliers for inventory by Michael Limited as follows. Note that the missing figures calculated in each T-account are in bold to make the example easier to follow.

Inventory			
Opening balance	45 000	COGS	151 000
Purchases	**168 000**		
Closing balance	62 000		

Accounts payable			
Cash	**148 000**	Opening balance	40 000
		Purchases	168 000
		Closing balance	60 000

By solving for the missing purchases figure in the inventory account (i.e. $168 000) and transferring it to accounts payable via the double-entry system (i.e. DR Inventory, CR Accounts payable), we can work out the amount of missing cash paid to suppliers in the accounts payable account (i.e. $148 000).

If you prefer, solve the above algebraically. From the above you can determine that:

$$\begin{aligned}\textbf{Purchases} &= \textbf{COGS + Closing inventory – Opening inventory}\\ &= \textbf{151 000 + 62 000 – 45 000}\\ &= \textbf{168 000}\end{aligned}$$

and

$$\begin{aligned}\textbf{Payment to suppliers} &= \textbf{Purchases + Opening accounts payable – Closing accounts payable}\\ &= \textbf{168 000 + 40 000 – 60 000}\\ &= \textbf{148 000}\end{aligned}$$

HOW'S YOUR UNDERSTANDING?

14F Given the following account balances, what was the amount paid to suppliers during the year?

	$
Inventory, 1 July 2018	250 000
Inventory, 30 June 2019	290 000
Accounts payable, 1 July 2018	130 000
Accounts payable, 30 June 2019	190 000
Cost of goods sold	600 000

PAYMENTS TO OTHER SUPPLIERS FOR SERVICES, AND TO EMPLOYEES

Under an accrual system, payment for expenses such as wages, interest, insurance, tax, electricity, rent and so on may be the same, or more, or less than the actual expense figure in the income statement. The differences result because of increases/decreases in prepayments/accruals. For example, in Michael Limited, prepaid insurance increases from $5000 to $8000; therefore, the payment for insurance is $3000 greater than the expense for the period. Wages payable reduces from $7000 to $4000, which means that the payment for wages was $3000 greater than the expense of the period. Taxes payable and interest payable both increased by $1000 during the year, meaning that both expense amounts were $1000 greater than the cash paid.

There are no other balance sheet accounts indicating further accrual of expenses or prepayments. Therefore, the other expenses category in the income statement of $37 000 was all paid in cash. The depreciation amount of $20 000 does not affect cash, and therefore is not included in the statement of cash flows (recall that the entry for depreciation is DR depreciation expense, CR accumulated depreciation, thus cash is not affected). Similarly, the loss on the sale of equipment does not affect cash.

We will now determine the cash paid for insurance, wages, interest and taxes. First, we will consider insurance. When an insurance premium is paid, the entry is:

DR	Prepaid insurance
CR	Cash

At the end of the accounting period, the insurance expense is determined by the amount of insurance used up:

DR	Insurance expense
CR	Prepaid insurance

For Michael Limited, the cash payment for insurance can be determined as follows, given that we know the opening and closing balance for insurance from the comparative balance sheets, and the insurance expense from the income statement.

Prepaid insurance			
Opening balance	5 000	Insurance expense	13 000
Cash	**16 000**		
Closing balance	8 000		

Alternatively, using a formula:

Closing prepaid insurance = Opening prepaid insurance + Payments − Insurance expense

Therefore:

Payment for insurance = Insurance expense + Closing prepaid insurance – Opening prepaid insurance
= 13 000 + 8000 – 5000
= 16 000

HOW'S YOUR UNDERSTANDING?

14G The prepaid insurance account showed an opening balance of $24 000 and a closing balance of $27 000. Insurance expense was $69 000. What were the cash payments for insurance?

The cash payments for wages can be determined, given that we know the opening and closing balances of wages payable from the comparative balance sheets, and the wages expense from the income statement.

Wages payable			
Cash	**103 000**	Opening balance	7 000
		Wages expense	100 000
		Closing balance	4 000

The cash paid for wages is $103 000. Alternatively, by formula we have:

Closing wages payable = Opening wages payable + Wages expense – Cash paid for wages
Cash paid for wages = Wages expense + Opening wages payable – Closing wages payable
= 100 000 + 7000 – 4000
= $103 000

The cash payments for interest can be determined in a similar manner.

Interest payable			
Cash	**19 000**	Opening balance	10 000
		Interest expense	20 000
		Closing balance	11 000

Alternatively, by formula, we have:

Closing interest payable = Opening interest payable + Interest expense – Cash paid for interest

Therefore:

Cash paid for interest = Interest expense + Opening interest payable – Closing interest payable
= 20 000 + 10 000 – 11 000
= 19 000

Finally, we will calculate the taxes paid during the year. Recall that when tax is calculated at the end of the year, the journal entry is:

DR	Income tax expense
CR	Income tax payable

When the amount is paid:

DR	Income tax payable
CR	Cash

Income tax payable			
Cash	**26 000**	Opening balance	5 000
		Income tax expense	27 000
		Closing balance	6 000

The cash paid for income taxes during the year, determined from the income tax payable ledger account, is shown to be $26 000. Alternatively, by formula it could be calculated as follows:

Closing income tax payable = Opening income tax payable + Income tax expense − Income tax paid

Therefore:

Income tax paid = Income tax expense + Opening income tax payable − Closing income tax payable
= 27 000 + 5000 − 6000
= 26 000

HOW'S YOUR UNDERSTANDING?

14H The income tax payable account showed an opening balance of $50 000 and a closing balance of $75 000. Income tax expense was $200 000. What was the income tax paid?

All the calculations necessary to show the cash flows from operating activities have now been completed, and the results are shown below:

Cash flows from operating activities	$
Receipts from customers	401 000
Payments to suppliers	(148 000)
Payments for insurance	(16 000)
Payments to employees	(103 000)
Payment for other expenses	(37 000)
Interest paid	(19 000)
Income tax paid	(26 000)
Net cash provided by operating activities	52 000

In practice, lines 2 to 5 above are often added together and reported under payments to suppliers and employees ($304 000).

Cash flows from investing activities

Our next step is to calculate cash inflows and outflows from investing activities. To do this we need to examine any changes in the noncurrent assets in the balance sheets, together with any additional information we have on the sale or purchase of noncurrent assets. This additional information may give details of the sale of any assets during the year and any asset revaluations (up or down). When there are changes in noncurrent assets, the potential explanations are an acquisition, disposal, asset revaluation or a combination of the above.

For Michael Limited, there are changes in two noncurrent assets; namely, land and equipment. Changes in these accounts result from net acquisitions. It is necessary to check whether the changes are only the result of acquisitions or if some disposals are involved. This can be ascertained by seeing if there is any profit or loss on disposal in the income statement or some mention of disposals or revaluations in the notes. For Michael Limited, a loss of $4000 on the sale of equipment was reported. Additional information provides more details about the sale of equipment and notes the revaluation of land.

Land has increased from $200 000 to $400 000. There is no indication of any disposals of land, and the land was revalued upwards by $50 000 (see revaluation surplus). The entry for this revaluation would have been:

DR	Land	
CR		Revaluation surplus

Based on the above, land that cost $150 000 was purchased during the year ($200 000 − $50 000).

The general ledger account would appear as follows:

Land			
Opening balance	200 000		
Cash	**150 000**		
Revaluation surplus	50 000		
	400 000		

To calculate cash related to the purchase or sale of noncurrent assets that have accumulated depreciation, it is important that you recall the journal entries introduced in Chapter 10 for the sale of a noncurrent asset.

In this case we know that equipment that cost $30 000 was sold during the year and that there was a loss on sale of $4000. To determine the purchases of equipment, first consider the journal entry when equipment is sold with a loss on sale:

DR	Cash	?	
DR	Loss on sale	4000	
DR	Accumulated depreciation	?	
CR	Equipment		30 000

We can first determine the accumulated depreciation on the equipment sold from the accumulated depreciation account, as we know opening and closing balances from the comparative balance sheets and depreciation expense from the income statement.

Accumulated depreciation			
Disposal	**7 000**	Opening balance	45 000
		Depreciation	20 000
		Closing balance	58 000

As shown in the above account, the accumulated depreciation for the equipment sold was $7000.

We now have additional information for the journal entry.

DR	Cash	?	
DR	Loss on sale	4 000	
DR	Accumulated depreciation	7 000	
CR	Equipment		30 000

Like all journal entries, the balances of the DRs equal the balance of the CRs. Therefore, $19 000 cash was received from the equipment that was sold (30 000 − 4000 − 7000 = 19 000).

Next, we can calculate the amount of cash paid for the equipment purchased by calculating the debit to the equipment account as follows:

Equipment			
Opening balance	150 000	Disposal	30 000
Cash	**160 000**		
Closing balance	280 000		

Note that the disposal of the equipment is entered in the equipment account at cost. New equipment at a cost of $160 000 was purchased.

The cash flows from the investing activities section of the statement of cash flows would appear as follows:

Cash flows from investing activities	$
Purchase of land	(150 000)
Purchase of equipment	(160 000)
Proceeds from sale of equipment	19 000
Net cash used in investing activities	(291 000)

HOW'S YOUR UNDERSTANDING?

14I If a company sells a piece of equipment with a book value of $100 000 (cost $250 000 less accumulated depreciation of $150 000) for $80 000, what is the journal entry?

Cash flows from financing activities

The next step is to determine the cash flows from financing activities. Finance comes from internal and external sources. The former is generated through operations, and is disclosed as cash flow from operations. External finance is generated from lenders or shareholders. To determine the cash flows from financing, it is necessary to examine the noncurrent liability accounts and the shareholders' equity account.

For Michael Limited, loans payable has increased from $200 000 to $250 000. The difference could be the result of a combination of both debt repayments and debt raising.

The journal entry for debt repayment is:

DR	Loans payable
CR	Cash

The journal entry for debt raising is:

DR	Cash
CR	Loans payable

We can determine the amount of debt raising from the general ledger account for loans payable, as we know the opening and closing balances as well as debt repayment of $150 000.

Loans payable			
Cash (repayment)	150 000	Opening balance	200 000
		Cash (raising)	**200 000**
		Closing balance	250 000

As shown, new debt of $200 000 was raised during the year.

Turning now to the shareholders' equity accounts, you can see that share capital increased by $204 000 from $163 000 to $367 000. As there was no mention of share buybacks, the difference of $204 000 must have resulted from the issue of shares. Next, the change in the asset revaluation surplus has already been explained as a revaluation of the land and there is no effect on cash. Retained profits changes can result from profit or loss from the period, or from dividends or transfers to or from general reserves. As there are no other reserve accounts besides asset revaluation reserve in this case, the transfer to or from reserves is not a possibility. By reconstructing the retained profits accounts, we can see the amount of dividends declared during the year is $30 000, given that we know the profit for the year.

Retained profits			
Dividends	**30 000**	Opening balance	40 000
		Profit	**49 000**
		Closing balance	59 000

From the above, it can be seen that dividends total $30 000. These could be paid in cash (DR retained profits, CR cash) or owing at balance date.

In the latter case, the entry would be:

DR	Retained profits
CR	Dividends payable

For Michael Limited, there is no dividends payable account; therefore, all the dividends of $30 000 must have been paid in cash.

Based on the above, the cash flows from financing activities are as follows:

Cash flows from financing activities	$
Proceeds from borrowings	200 000
Repayment of borrowings	(150 000)
Issue of shares	204 000
Dividends paid	(30 000)
Net cash provided from financing activities	224 000

Combining all of the above, the full statement of cash flows is shown in Exhibit 14.7.

EXHIBIT 14.7

MICHAEL LIMITED

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 JUNE 2019

	$
Cash flows from operating activities	
Receipts from customers	401 000
Payments to suppliers and employees	(304 000)
Interest paid	(19 000)
Income tax paid	(26 000)
Net cash provided by operating activities	52 000
Cash flows from investing activities	
Purchase of land	(150 000)
Purchase of equipment	(160 000)
Proceeds from sale of equipment	19 000
Net cash used in investing activities	(291 000)
Cash flows from financing activities	
Proceeds from borrowings	200 000
Repayment of borrowings	(150 000)
Issue of shares	204 000
Dividends paid	(30 000)
Net cash provided from financing activities	224 000
Net increase (decrease) in cash held	(15 000)
Cash at 1 July 2018	40 000
Cash at 30 June 2019	25 000

14.4 Interpreting a statement of cash flows (direct method)

LO5 To illustrate some of the information you can gain from examining statements of cash flows, we will consider the statement of cash flows for a large Australian company (with some simplifications made), which is shown in Exhibit 14.8. We have included the comparative figures for the 2019 and 2018 statements of cash flows.

EXHIBIT 14.8

GEORGIE LTD

STATEMENTS OF CASH FLOWS FOR THE FINANCIAL YEARS ENDED 30 JUNE 2019 AND 2018

	2019 $m	2018 $m
Cash flows from operating activities		
Receipts from customers	2 917.9	2 204.9
Payments to suppliers and employees	(2 657.3)	(1 926.1)
Interest received	33.5	23.6
Interest and other costs of finance paid	(127.5)	(77.0)
Income tax paid	(49.7)	(52.4)
Net cash flows from operating activities	116.9	173.0
Cash flows from investing activities		
Proceeds from disposal of other property, plant and equipment	33.0	17.1
Payments for:		
Additions of investments in securities	(32.9)	(2.5)
Additions of property, plant and equipment	(480.8)	(323.7)
Acquisitions of other entities	(770.9)	(12.7)
Net cash flows used in investing activities	(1 251.6)	(321.8)
Cash flows from financing activities		
Proceeds from issue of shares	737.6	50.2
Proceeds from borrowings	695.7	164.3
Borrowings repaid	(233.5)	(95.2)
Dividends paid	(75.9)	(64.5)
Net cash flows (used in)/from financing activities	1 123.9	54.8
Net increase/(decrease) in cash and cash equivalents	(10.8)	(94.0)
Cash and cash equivalents held at the beginning of the financial year	329.9	420.2
Cash and cash equivalents held at the end of the financial year	319.1	326.2

The following should be noted about the statement of cash flows in 2019 in Exhibit 14.8:

1. Cash held remained fairly constant, reducing from $326.2 million to $319.1 million.
2. Cash flow from operations fell from $173 million to $116.9 million. While receipts from customers increased, the increase in payments to suppliers and employees increased by a larger amount.

3 There were large cash flows for investing activities, in particular acquisition of property, plant and equipment ($480.8 million) and acquisitions of other entities ($770.9 million).

4 Only a small proportion of the investing activities was funded by cash flow from operations ($116.9 million).

5 There was a substantial increase in financing inflows as a result of the issue of shares and new borrowings. This additional finance was required to cover the cash outflows for investments.

6 Under financing activities, note that some borrowings were repaid during the year ($233.5 million) and dividends of $75.9 million were paid during the year. However, there were significant additional borrowings of $695.7 million and cash received from the issue of shares.

14.5 Preparation using the indirect method

LO4

The indirect method of cash flow analysis is used in many overseas countries, including Canada and the United States (where companies can use either direct or indirect, but generally choose the indirect method). As noted above, it is also necessary to show this information in Australia in a note to the financial statements to provide the reconciliation between operating profit and cash flow from operations. Consider for a minute why these two items should reconcile. The two will reconcile when you eliminate all the accruals in operating profit, which will get you back to a cash profit; that is, cash flow from operations.

It is important to note that the direct and indirect methods give the same results. The only difference is in how they report cash flow from operations. The reporting of cash flows from investing and financing are identical under both methods. The indirect method of reporting cash flow from operations starts with operating profit, then makes adjustments to this figure from non-cash items to arrive at cash flow from operating activities. There are two main types of non-cash adjustments: (a) depreciation, losses and gains; and (b) credit and accrual transactions that form part of the calculation of profit.

To adjust for depreciation, losses and items that are expenses but do not affect cash, these items are added back to operating profit. These include depreciation, amortisation and loss on the sale of noncurrent assets. In addition, non-cash revenues such as profit on the sale of noncurrent assets are deducted from operating profit.

Let's take a simple example with only one adjustment – namely, depreciation – to illustrate the above. Assume a company has only cash sales amounting to $100 000, cash expenses of $60 000 and depreciation of $10 000. Therefore, net profit is $30 000. Cash flow from operations can be determined by deducting $60 000 from $100 000, giving $40 000 (the direct method); or by adding back the $10 000 depreciation to operating profit of $30 000, again giving cash flow from operations of $40 000 (the indirect method).

The second type of adjustment removes the accruals relating to current assets and current liabilities. For example, if accounts receivable increases during a period by $10 000, credit sales will be greater than cash received from customers by $10 000. Under accrual accounting, sales are recognised when earned, whereas the cash receipts from customers can be before, after or at the same time as revenue recognition. Therefore, to adjust from operating profit to cash flow from operations, it would be necessary to deduct $10 000 from operating profit to get cash flow from operations. This has eliminated the non-cash portion of sales from profit. Similarly, other working capital items – including inventories, prepayments, accounts payable and accrued expenses – need to be adjusted.

Therefore, the following rules apply in adjusting for working capital changes:

- deduct from operating profit increases in working capital assets (debtors, inventory and prepayments)
- deduct from operating profit decreases in working capital liabilities (accounts payable and accruals)
- add to operating profit decreases in working capital assets
- add to operating profit increases in working capital liabilities.

We can summarise the indirect method of calculating cash from operations as follows:

	Operating profit after tax
+	Non-cash expenses (e.g. depreciation)
−	Non-cash revenues (e.g. profit on sale of plant)
+	Decrease in accounts receivable, inventory and prepayments
+	Increase in accounts payable and accrued expenses
−	Decrease in accounts payable and accrued expenses
−	Increase in accounts receivable, inventory and prepayments
=	Cash flows from operating activities

Note that each of the above accounts relate to the income statement: credit sales relates to accounts receivable; credit purchases/COGS relates to inventory and accounts payable; and prepayments and accruals relate to expenses. It would not include current liabilities, such as dividends payable or short-term loans, given the other side of the journal entry does not involve any expense or revenue items.

HOW'S YOUR UNDERSTANDING?

14J The net operating profit of Luke Ltd was $31 000. Depreciation expense was $10 000 and gain on sale of equipment $2000. Accounts receivable increased by $15 000 and inventory decreased by $7000. Accounts payable decreased by $8000. What was the cash flow from operations?

To illustrate the preparation of a statement of cash flows using the indirect method, we'll redo the Michael Limited example from section 14.3 (see Exhibit 14.9).

EXHIBIT 14.9

MICHAEL LIMITED

CASH FLOWS FROM OPERATING ACTIVITIES – INDIRECT METHOD

	$
Operating profit after tax	49 000
Depreciation	20 000
Loss on sale of equipment	4 000
Changes in current assets and liabilities:	
Increase in accounts receivable	(20 000)
Increase in inventory	(17 000)
Increase in prepaid insurance	(3 000)
Increase in accounts payable	20 000
Increase in income tax payable	1 000
Increase in interest payable	1 000
Decrease in wages payable	(3 000)
Cash flows from operating activities	52 000

You should note that the cash flow from operations using the indirect method gives the same total cash flows from operations as did the direct method. To complete the statement of cash flows, it would be necessary to add on the cash flows from investing and financing, which would be exactly as outlined in Exhibit 14.7.

Consider the following extract from the cash flow statement of Tamarack Systems Ltd, which uses the indirect method to calculate cash flow from operations, as shown in Exhibit 14.10.

EXHIBIT 14.10

TAMARACK SYSTEMS LTD

STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 JUNE 2019

	$	$
Operating activities		
Net profit for the year		56 292
Adjustments for non-cash expenses:		
Depreciation of building	69 904	69 904
Adjustments for changes in non-cash working capital:		
Accounts receivable	(76 706)	
Inventories	10 815	
Prepaid expenses	5 317	
Accounts payable	35 987	
Income taxes payable	1 138	(23 449)
Cash flow from operations		102 747
Investing activities		
Additions to land	(7 500)	
Additions to building	(179 914)	(187 414)
Financing activities		
Dividend payments	(30 000)	
Repayment of loans	(20 000)	
Increase in loan	1 591	
Share capital issued	50 000	1 591
Net total change in cash and equivalents		(83 076)
Cash and equivalents – beginning of year		34 240
Cash and equivalents – end of year		(48 836)

We can make several observations:

- Cash from operations was almost twice accrual net profit ($102 747 versus $56 292).
- The main reasons for the differences were the amount of depreciation ($69 904) and the increase in accounts payable ($35 987).
- Cash from operations has been severely reduced by a large rise in accounts receivable; that is, uncollected revenue ($76 706).
- Operations were the major source of cash during the year – there was no new borrowing and the issue of shares brought in only half the cash that operations did.
- The major use of cash was additions to noncurrent assets.
- The company's cash balance reversed from $34 240 to a cash deficit of $48 836.

We do not know the reasons for the effects shown in the statement of cash flows, but we certainly do know several things we might like to ask management about. In particular, we might like to know how management proposes to get cash back onto the positive side.

HOW'S YOUR UNDERSTANDING?

14K The financial year for Neverless Limited ends on 30 June 2019. During the month of June 2019, the company has incurred the following transactions:

(i) Sent invoices for $20 000 to customers for work carried out in June; $5000 of this was collected in June.
(ii) Received $30 000 deposit on a job that will be carried out in July 2019.
(iii) Paid accounts payable $40 000, which was outstanding on 31 May 2019.
(iv) Sold old equipment for $20 000 – the equipment originally cost $300 000 with accumulated depreciation at the time of sale of $250 000.

Indicate the effect (increase/decrease/no change) of each transaction on the company's cash flow from operating activities, investing activities and financing activities for the year ended 30 June 2019.

14.6 Interpreting a statement of cash flows (indirect method)

LO5 The indirect method is used extensively in North America. As noted earlier, in Australia the indirect method is shown as a note to the statement of cash flows. In Exhibit 14.11 we have provided an example that we call Tyson Foods Limited. The example is a simplified version of some real figures for a US company. Note that it is comparative for three years, and that the three years vary a great deal in the details of their cash flows. A great deal of information is provided about various financing and investing activities.

EXHIBIT 14.11

TYSON FOODS LTD

CONSOLIDATED STATEMENTS OF CASH FLOWS FOR THREE YEARS ENDED 30 JUNE 20X9

	20X9 $000	20X8 $000	20X7 $000
Cash flows from operating activities			
Net profit	185 712	178 417	149 282
Adjustments to reconcile net profit to cash provided by operating activities:			
Depreciation	145 756	119 363	106 630
Amortisation	30 753	29 502	29 201
Loss on dispositions of property and equipment	695	218	816
(Increase) decrease in accounts receivable	35 344	(25 259)	(3 810)
(Increase) decrease in inventories	(66 909)	10 606	(14 238)
Increase (decrease) in trade accounts payable	(41 001)	7 414	(6 396)
Net change in other current assets and liabilities	18 052	(54 381)	35 589
Cash provided by operating activities	308 402	265 880	297 074

>

Cash flows from investing activities			
Additions to property, plant and equipment	(268 682)	(107 990)	(213 576)
Proceeds from sale of property, plant and equipment	7 387	6 615	15 294
Net change in other assets and liabilities	(41 393)	(3 309)	(7 424)
Cash used for investing activities	(302 688)	(104 684)	(205 706)
Cash flows from financing activities			
Net increase (decrease) in notes payable	(29 200)	(10 000)	10 000
Proceeds from long-term debt	977 421	131 941	155 500
Repayments of long-term debt	(954 497)	(278 694)	(246 642)
Dividends paid	(4 951)	(2 836)	(1 716)
Cash used for financing activities	(11 227)	(159 589)	(82 858)
Increase/(decrease) in cash	(5 513)	1 607	8 510
Cash and cash equivalents at beginning of year	27 060	25 453	16 943
Cash and cash equivalents at end of year	21 547	27 060	25 453

Let's look at some of the things Tyson's statement of cash flows tells us.

- The company's cash from operations is very large in relation to its other cash flows. This allows the company to finance most of its activities from this internally generated cash, rather than having to borrow or issue more share capital.
- The company does not keep much cash on hand relative to its annual flow. Cash from operations has been about, or more than, 10 times that of cash on hand in each of the three years.
- Interesting changes are suggested in the company's relationship with its customers and suppliers. Accounts receivable had been increasing each year in 20X7 and 20X8, but decreased significantly in 20X9. (It turns out that new arrangements were made to sell accounts receivable continuously to a bank, speeding up the company's receipt of cash.) Inventories rose quite a lot in 20X9 and accounts payable were paid off faster: these two items reduced cash from operations by more than $100 million.
- The company acquired more noncurrent assets during 20X9. Those acquisitions cost $268 million in 20X9, more than twice what was spent in 20X8, and more than was spent in 20X7. Such acquisitions have been Tyson's major use of the cash it generates from operations.
- These acquisitions help the company keep its assets renewed as they lose their value through use. The sum of the company's amortisation and depreciation for the year gives an indication of that lost value, which is only about $90 million less than the spending on noncurrent assets.
- Tyson did a major refinancing of its long-term debt during 20X9, most likely to take advantage of financial market changes such as interest rate reductions. You can see that although nearly a billion dollars was rearranged, the net amount of additional borrowing was small.
- The company does not pay much in dividends. This is presumably part of the company's internal financing strategy: retained profits is the largest single account on the right-hand side of the company's 20X9 balance sheet.
- Net total cash flow ('increase/(decrease) in cash') is small compared to the size of the operating, investing and financing flows. The company appears to be doing a careful job of balancing incoming and outgoing cash flows.

14.7 Cash flow and the manager

LO6 Managers are responsible not only for earning profit for the company, but also for managing cash so that bills can be paid on time, excess borrowing and interest costs can be avoided, and the company's liquidity and solvency can be generally protected. Effectively employing available cash so that it does not remain idle, earning nothing, is also important. Cash flow and profit are generally positively correlated (good performance tends to move them both up and poor performance tends to move them both down), and over a long enough period of time (years), they are almost the same.

However, in the short run, the relationship between cash flow and profit can be complex. For example, a problem new businesses can have is to grow too fast. Often the product demand and the entrepreneurial enthusiasm are high: the business was founded in the hope that people would want the product or service, and it is exciting to everyone when they do! The income statements of such businesses often show high profits, but the cash flow and the balance sheet may tell a different story. In the enthusiasm of making sales and satisfying customers, inventory levels often get too high (making sure there is something for everyone on hand) and collections from customers often lag (receivables get too high as the entrepreneur concentrates on the pleasures of selling rather than the nuisance of collecting). The cash flow deducts the increases in inventories and receivables from accrual-basis net income, and may show that operating cash flows are small or even negative. When this happens, you do not need cash flow to know you are in trouble: your bank balance tells you that! But the statement of cash flow reports the whole story to others, so that they can see what you have accomplished in obtaining and using cash in your operating, financing and investing activities. You then have to be prepared to explain such activities to users of the financial statements.

The statement of cash flows provides a measure of managerial performance in managing cash, so smart managers must be aware of how their efforts are reflected in it, just as they are aware of the measures of performance and position offered by balance sheets and income statements.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first,* because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Prepare a schedule of cash flows from operating activities

Following is the income statement for JKL Limited.

JKL LIMITED
INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE 2019

	$	$
Sales		13 000
Less: Cost of goods sold		6 000
Gross profit		7 000
Operating expenses	2 200	
Depreciation	1 400	3 600
Operating profit before income tax		3 400
Income tax expense		1 100
Net profit after tax		2 300

Additional information:

a All sales were on credit.
b Accounts receivable decreased by $2000 during the year.
c All stock purchases were on credit.
d Inventory increased by $1800.
e Accounts payable decreased by $3100 during the year.
f Income taxes payable increased by $600 during the year.
g All operating expenses are paid in cash in the year incurred.

Prepare a schedule of cash flows from operating activities using:

1 the direct method
2 the indirect method.

PRACTICE PROBLEM B

Calculate cash payments

1 Cost of goods sold = $2 300 000
Inventory increased from $300 000 to $610 000
Accounts payable increased from $200 000 to $295 000

Required: calculate cash payments for purchases.

2 Income tax expense for the year = $48 000
Income taxes payable have increased by $15 000 to $20 500

Required: calculate cash payments for income tax.

3 Sales = $7 640 000
Accounts receivable increased from $1 000 000 to $1 870 000

Required: calculate cash receipts from sales.

4 Wages expense = $2 350 000
Wages payable decreased from $1 490 000 to $1 million.

Required: calculate cash paid for wages.

PRACTICE PROBLEM C

Prepare a statement of cash flows

The following information relates to Tut Ltd.

TUT LTD
COMPARATIVE BALANCE SHEET AS AT 30 JUNE 2019

	2019 $000	2018 $000
Current assets		
Cash	–	20
Accounts receivable	143	105
Inventory	200	220
Prepaid insurance	10	10
Noncurrent assets		
Equipment	640	450
Accumulated depreciation – equipment	(200)	(150)
Land	680	600
Motor vehicles	485	520
Accumulated depreciation – motor vehicles	(183)	(210)
Total assets	1 775	1 565
Current liabilities		
Bank overdraft	10	–
Accounts payable	205	265
Income tax payable	44	70
Final dividend payable	85	60
Noncurrent liabilities		
Borrowings	470	430
Total liabilities	814	825
Net assets	961	740
Shareholders' equity		
Share capital	620	450
Revaluation surplus	210	130
Retained profits	131	160
Total shareholders' equity	961	740

INCOME STATEMENT FOR YEAR ENDED 30 JUNE 2019

	$000
Sales	560
COGS	(170)
Insurance expense	(45)
Other expenses	(220)
Loss on sale of motor vehicles	(25)
Profit before tax	100
Income tax expense	(44)
Profit after tax	56

Additional information (dollar amounts expressed in full units):

1 Land was revalued upwards during the year by $80 000.
2 Motor vehicles with an original cost of $145 000 and accumulated depreciation of $65 000 were sold for $55 000.
3 Equipment to the value of $60 000 was acquired with the issue of a long-term note. The amount payable has been included in borrowings on the balance sheet.

Prepare a statement of cash flows for Tut Ltd for the year ended 30 June 2019. Also prepare a reconciliation of cash from operating activities to net profit.

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 Why is managing cash flow important?
2 Can a company have a good net profit and little cash generated from operations in the same year? If it can, how does this happen?
3 Why is cash generated from operations usually larger than net profit?
4 What are cash and cash equivalents?
5 Explain the difference between the direct and indirect methods of calculating cash flow from operations.
6 Provide three examples of transactions that will affect:
   a cash flow from operations
   b cash flows from financing activities
   c cash flows from investing activities.
7 How can cash flow from operations be negative when net profit is positive?
8 Companies are required to classify cash flows as either operating, investing or financing. Which of these three categories is most likely to have a net cash outflow over a number of years? Briefly explain your answer.
9 At the Annual General Meeting of Scotlay Ltd, the managing director made the following statement:

> Although the year was one characterised by poor sales performance, Scotlay Ltd maintained strong operating cash flows. Operating profit for the year was $1 million, and net operating cash flows were $4 million. The difference between operating profit and operating cash flows is primarily explained by depreciation charges of $3 million. Scotlay's continuing investment program will ensure that operating cash flows are even higher next year, as depreciation charges are expected to increase to $5 million.

   a Explain how depreciation charges can create a difference between operating profit after tax and net cash flow from operating activities.
   b Briefly comment on the validity of the managing director's prediction of an increase in operating cash flows next year.
10 Briefly explain why managing cash flow is important for the success of a business.
11 A senior financial executive for a large public company remarked to a stock market analyst:

> I don't know why you people worry so much about what is in our statement of cash flows. Managing cash flow is our responsibility as managers; it involves paying close attention to cash on a daily basis. Why don't you pay attention to our profit and just forget about cash flow? We'll look after that!

Respond to the executive's comments. You do not have to agree or disagree entirely.

12 A business commentator made the following remark during a discussion of the financial performance of a large, but struggling, company:

> These accountants spend lots of money to create complicated financial statements, especially income statements, which use what they call 'accrual' accounting. Then they take away all the accruals and supposedly return us to the cash profit number ('cash flow from operations') we would have had anyway, if they hadn't bothered with accrual accounting in the first place! Why don't they just give us the cash profit and leave it at that?

If you were an accountant involved in the discussion, and everyone turned to you to hear your response to the commentator, what would you say?

PROBLEMS

PROBLEM 14.1

Classifying cash flows

The below items were taken from a listed company's statement of cash flows. Classify each item as operating, investing or financing. For each item state whether cash is increasing or decreasing.

1 Cash received from issue of share capital
2 Cash received from customers
3 Purchases of property, plant and equipment
4 Cash paid to suppliers
5 Cash paid for dividends to shareholders
6 Repayment of loan interest
7 Cash paid to employees
8 Cash borrowed from the bank
9 Cash proceeds received from sale of investment in another company
10 Income taxes paid
11 Repayment of loan principal
12 Dividend paid

PROBLEM 14.2

Cash flow analysis from account information

Prepare a statement of cash flows for Sutherland Limited from the following cash account information.

	$		$
Cash, beginning of year	68 920	Proceeds from sale of old equipment	7 000
Cash, end of year	93 620	Repayments on borrowings	80 500
Borrowed from the bank	70 000	Equipment purchased ($5000 still owing)	49 000
Cash expenses	8 920	Dividends paid	20 000
Cash sales	31 610	Employee wages paid	238 530
Collections on accounts receivable	797 640	Income tax paid	14 920
Ordinary shares issued	110 000	Land purchased for cash	81 000
Depreciation for the year	20 000	Payments to suppliers	513 600

PROBLEM 14.3

Effect of transactions on cash flows

The financial year for Gamma Limited ends on 30 June 2019. Management has asked you what effect each of the following June transactions will have on net profit before tax, cash flow from operations, cash flow from investing and cash flow from financing for the year ended 30 June 2019:

1 Sent invoices for $40 000 to customers during June for work carried out in June; $19 000 of this had been collected by year-end.

2 Borrowed $300 000 from the bank on 10 June, with principal and interest repayable in six months. Accrued interest at 30 June is $2500.
3 Paid salaries for the month of $80 000, with $5000 in wages owing at year-end.
4 Received $30 000 deposit on a job that will be carried out in July 2019.
5 Paid accounts payable of $35 000 which was outstanding at 31 May 2019.
6 Sold old equipment for $20 000. The equipment originally cost $300 000 with accumulated depreciation at the time of sale of $250 000.
7 Purchased new equipment on 20 June 2019 for $220 000 cash. Depreciation on this equipment for June 2019 amounted to $900.
8 Declared and paid dividends of $180 000 in June 2019.

PROBLEM 14.4

Prepare a cash flow statement

EXPRESS LTD
COMPARATIVE BALANCE SHEETS FOR 2019 AND 2018

	2019 $	2018 $
Current assets		
Cash	93	50
Accounts receivable	80	60
Inventory	70	100
Prepaid insurance	40	25
Total current assets	283	235
Noncurrent assets		
Equipment	315	350
Less accumulated depreciation	90	140
Total noncurrent assets	225	210
Total assets	508	445
Current liabilities		
Accounts payable	50	35
Wages payable	25	15
Rent received in advance	18	15
Accrued other expenses	20	30
Total current liabilities	113	95
Noncurrent liabilities		
Loan	90	125
Total noncurrent liabilities	90	125
Total liabilities	203	220
Net assets	305	225
Shareholders' equity		
Share capital	140	140
Retained earnings	165	85
Total shareholders' equity	305	225

EXPRESS LTD
PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 2019

	$
Sales	470
Cost of goods sold	180
Gross profit	290
Other revenue	
Rent	60
Total revenue	350
Less operating expenses	
Wages	35
Insurance	30
Depreciation	110
Other expenses	75
Loss on disposal of equipment	4
	254
Net profit	96

Additional information:
Equipment that costs $200 was sold during the year.

Required:
Prepare a cash flow statement ending 30 June 2019.

PROBLEM 14.5

Operating, financing and investing activities

The following information relates to LL Ltd.

LL LTD
COMPARATIVE BALANCE SHEETS

	2019 $	2018 $
Current assets		
Cash	95 000	105 000
Accounts receivable	330 000	150 000
Inventory	270 000	260 000
Prepaid insurance	10 000	5 000
Noncurrent assets		
Land	540 000	480 000
Equipment	587 000	585 000
Accumulated depreciation – equipment	(332 000)	(245 000)
Total assets	1 500 000	1 340 000
Current liabilities		
Accounts payable	190 000	360 000
Wages payable	64 000	52 000
Noncurrent liabilities		
Borrowings	746 000	488 000
Total liabilities	1 000 000	900 000

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Net assets	500 000	440 000
Shareholders' equity		
Share capital	250 000	240 000
Asset revaluation reserve	90 000	50 000
Retained profits	160 000	150 000
Total shareholders' equity	500 000	440 000

LL LTD
INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE 2019

	$	$
Sales		700 000
Gain on sale of equipment		30 000
		730 000
Less:		
Cost of goods sold	87 000	
Depreciation	300 000	
Wages expense	100 000	
Rent expense	9 000	
Insurance expenses	30 000	526 000
Profit before income tax		204 000
Less: Income tax expense		64 000
Profit/(loss) after tax		140 000

Additional information:

Equipment with a book value of $70 000 was sold during the year.

1 What is the journal entry for the sale of equipment?

2 Calculate the following:
  - a cash received from customers
  - b cash paid to suppliers
  - c wages paid
  - d rent paid
  - e insurance paid.

3 Calculate the following:
  - a cash paid for land purchase
  - b cash paid for equipment.

4 Calculate cash flow from financing activities for the year ended 30 June 2019.

PROBLEM 14.6

Cash flow from operations

The following data are extracted from the financial statements of Flutes Ltd:

	2019 $	2018 $
Accounts receivable	240 000	265 000
Inventory	340 000	380 000
Salaries payable	80 000	50 000
Accounts payable	280 000	310 000
Interest payable	10 000	10 000
Income tax payable	95 000	80 000

Additional information:

1 All sales are made on credit; there is no allowance for doubtful debts
2 Sales revenue, $880 000
3 Cost of goods sold, $620 000
4 Salaries expense, $70 000
5 Interest expense, $110 000
6 Income tax expense on current year's profits, $95 000.

Calculate all cash flows revealed by the above data.

PROBLEM 14.7

Cash flows for financing and investing

The following data are extracted from the financial statements of Hippolyta Ltd.

	2019 $	2018 $
Equipment	128 000	192 000
Accumulated depreciation – equipment	(35 000)	(40 000)

Additional information:

a Proceeds from sale of equipment, $75 000
b Net book value (cost less accumulated depreciation) of equipment sold, $62 000
c Depreciation expense for equipment, $17 000
d Some new equipment was purchased during 2019
e Assume all sales and purchases of equipment are for cash

Required:

1 Reconstruct the journal entry to record the sale of equipment.
2 What is the value of the equipment purchased?

PROBLEM 14.8

Cash flow from financing

The following data are extracted from the financial statements of Theseus Limited:

	2019 $	2018 $
Share capital	368 000	321 000
Retained earnings	210 000	198 000
Net profit	38 000	34 000

Calculate all the cash flows revealed by the data provided above.

PROBLEM 14.9

Preparation of a statement of cash flows

The following information relates to Sandra Limited.

Comparative balance sheets	30 June 2019 $000	30 June 2018 $000
Current assets		
Cash	193	240
Accounts receivable	400	470
Allowance for doubtful debts	(50)	(47)
Inventory	420	380
Prepaid insurance	30	40
Noncurrent assets		
Land	605	620
Equipment	2 030	1 455
Accumulated depreciation – equipment	(690)	(560)
Total assets	2 938	2 598
Current liabilities		
Accounts payable	210	290
Accrued other expenses	120	140
Interest payable	40	40
Income tax payable	780	680
Noncurrent liabilities		
Borrowings	770	1 100
Total liabilities	1 920	2 250
Shareholders' equity		
Share capital	330	210
Asset revaluation reserve	60	10
Retained profits	628	128
Total shareholders' equity	1 018	348
Total liabilities and shareholders' equity	2 938	2 598

INCOME STATEMENT YEAR ENDED 30 JUNE 2019

	$000	$000
Sales revenue		4 800
Gain on sale of land		180
Gain on sale of equipment		120
		5 100
Less expenses:		
Cost of goods sold	2 200	
Bad debts expense	30	
Insurance expense	20	
Interest expense	40	

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Other expenses	1 450	
Depreciation expense	200	3 940
Profit before income tax		1 160
Income tax expense		490
Profit after tax		670

Additional information (dollar amounts expressed in full units):

a The equipment that was sold was originally purchased by Sandra Limited three years ago at a cost of $300 000.

b Land with an original value of $240 000 was revalued to $290 000.

Required:

Prepare a statement of cash flows for Sandra Limited for the year ended 30 June 2019.

PROBLEM 14.10

Cash flow from operations (data includes bad and doubtful debts)

The following information is taken from the accounts of Registration Ltd for the year ended 31 December 2019:

	$
Accounts receivable, 1 January 2019	95 000
Accounts receivable, 31 December 2019	70 000
Allowance for doubtful debts, 1 January 2019	13 000
Allowance for doubtful debts, 31 December 2019	5 000
Inventory, 1 January 2019	90 000
Inventory, 31 December 2019	95 000
Accounts payable, 1 January 2019	70 000
Accounts payable, 31 December 2019	60 000
Credit sales	300 000
Cash sales	160 000
COGS	420 000
Bad debts expense	12 000

1 What was the amount of cash received from customers?

2 What was the amount of cash paid to suppliers?

PROBLEM 14.11

Interpreting a statement of cash flows

Summarised cash flow statements for the year ended 30 June 2019.

	Company A $m	Company B $m	Company C $m
Cash flow from operations	(100)	100	300
Cash flow from investing	(201)	(201)	(201)
Cash flow from financing	300	100	(100)
Change in cash flow	(1)	(1)	(1)

Note that all cash flow from financing relates to borrowings and that no shares were issued or dividends paid.

Comment on the cash flow of the three companies.

PROBLEM 14.12

Interpreting a statement of cash flows

COMO LIMITED
STATEMENTS OF CASH FLOWS FOR THE YEAR ENDED 30 JUNE 2019

	Consolidated	
	2019 $000	**2018 $000**
Cash flows provided by operating activities:		
Cash receipts in the course of operations	753 647	666 154
Cash payments in the course of operations	(565 244)	(475 441)
Dividends received	–	1 019
Interest received	6 316	4 312
Interest paid	(27 007)	(22 015)
Income taxes paid	(49 732)	(19 372)
Net cash provided by operating activities	117 980	154 657
Cash flows used in investing activities:		
Purchase of property, plant and equipment	(44 458)	(32 070)
Purchase of/proceeds from sale of businesses	(2 803)	956
Proceeds from sale of property, plant and equipment	326	417
Purchase of controlled entity	–	(143 259)
Net cash used in investing activities	(46 935)	(173 956)
Cash flows provided by/(used in) financing activities:		
Repayment of borrowings	(126 500)	–
Repayment of finance lease	(1 919)	(1 919)
Dividends paid	(45 330)	(36 204)
Proceeds from borrowings	96 500	96 500
Net cash provided by/(used in) financing activities	(77 249)	58 377
Net increase/(decrease) in cash	6 204	39 078
Cash at the beginning of the financial year	122 946	83 868
Cash at the end of the financial year	116 742	122 946

1 Explain the main differences in cash flows between 2018 and 2019.
2 Comment on Como's cash flow position in 2019.

PROBLEM 14.13

Interpreting a statement of cash flows

Outline the five most important things you learn about TLH Ltd from the following consolidated statement of cash flows for the year ended 30 June 2019.

	2019 $m	2018 $m
Cash flows from operating activities		
Net cash receipts in the course of operations	4 439	4 280
Payments to suppliers, service providers and employees	(2 357)	(2 213)
Other cash operating costs	(1 075)	(1 038)
Finance costs paid	(151)	(149)
Income tax paid	(197)	(179)
Net cash flows from operating activities	659	701
Cash flows from investing activities		
Payment for property, plant and equipment and intangibles	(593)	(408)
Proceeds from sale of property, plant and equipment and intangibles	(47)	(1)
Net cash flows used in investing activities	(640)	(409)
Cash flows from financing activities		
Proceeds from issue of shares	415	–
Repayments of short-term borrowings	(296)	(15)
Proceeds from long-term borrowings	1 090	–
Repayment of long-term borrowings	(1 063)	–
Dividends paid	(278)	(304)
Net cash flows used in financing activities	(132)	(319)
Net decrease in cash held	(115)	(29)
Cash at beginning of year	261	291
Cash at end of year	146	262

PROBLEM 14.14

Interpreting cash flows

Marlot Limited reported the following information on cash flow for the year 2019.

	$
Cash flows from operations	(800 000)
Cash flows from investing activities	200 000
Cash flows from financing activities	601 000
Net cash flows	1 000
Opening cash balance	260 000
Closing cash balance	261 000

1. Does Marlot Limited appear to be expanding or contracting its operations?
2. Describe the activities that could explain the increases in cash flow for financing activities.
3. Using only the cash flow information presented, make an assessment of the condition of Marlot Limited. Is it growing, mature/stable or declining? State reasons for your answer (including any assumptions you make).

PROBLEM 14.15

Simple cash flow statement – indirect method

Janali Limited prepares its statement of cash flows using the indirect method. Its balance sheet shows the following information:

	30/06/2019 $	30/06/2018 $
Cash	81 000	87 000
Inventory	205 000	190 000
Equipment	270 000	260 000
Accumulated depreciation	(75 000)	(70 000)
	481 000	467 000
Accounts payable	130 000	142 000
Long-term loan	85 000	75 000
Share capital	230 000	230 000
Retained profits	36 000	20 000
	481 000	467 000

Additional information:

a Net profit for the year ended 30 June 2019 was $30 000.

b No equipment was disposed of during the year ended 30 June 2019. No payments were made on the long-term loan.

Calculate each of the following amounts:

1 Net cash flow from operating activities
2 Net cash flow from investing activities
3 Net cash flow from financing activities.

PROBLEM 14.16

Comment on a company's cash management (indirect method)

Axiomatic Ltd's statement of cash flows for last year is shown below. Provide observations about how the company managed its cash during the year.

AXIOMATIC LTD
STATEMENT OF CASH FLOWS FOR LAST YEAR

	$	$
Operating activities:		
Net profit for the year		94 900
Add back non-cash expenses:		
Depreciation expense	216 800	
Amortisation expense	14 200	
Bad debt expense	38 900	269 900
Non-cash working capital changes:		
Increase in accounts receivable	(143 900)	
Increase in inventories	(71 600)	
Increase in accounts payable	87 000	(128 500)
Cash generated by operations		236 300

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Investing activities:		
Additions to noncurrent assets	(429 100)	
Proceeds on disposal of noncurrent assets	27 700	(401 400)
Financing activities:		
Short-term bank loan	30 000	
Additions to noncurrent debt	343 200	
Repayments of noncurrent debt	(316 000)	
Share capital issued	200 000	
Dividends paid during the year	(40 000)	217 200
Increase in cash for the year		52 100
Cash, beginning of year		(93 500)
Cash, end of year		(41 400)

PROBLEM 14.17

Indirect method

The income statement and balance sheet provide the following information for 2019.

INCOME STATEMENT FOR YEAR ENDED 30 JUNE 2019

	$	$
Service revenue		60 000
Expenses:		
Salaries	40 000	
Depreciation	15 000	
Loss on sale of equipment	2 000	
Other expenses	7 500	64 500
Net loss		(4 500)
Partial balance sheet as at 30 June	**2019**	**2018**
Accounts receivable	10 000	26 000
Salaries payable	5 000	2 000
Other accrued expenses	1 000	5 000

1 Calculate cash flows for operations using the indirect method.

2 Why are the reasons for the difference between cash flow from operations and net income important to financial analysts?

PROBLEM 14.18

Reconstructing account balances from a statement of cash flows

XYZ LIMITED
STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 JUNE 2019

	Consolidated	
	2019	**2018**
Cash flows from operating activities		
Cash receipts from customers	389 863	188 739
Cash payments to suppliers and employees	(375 926)	(304 600)
Interest received	1 572	1 368
Interest paid	(21 514)	(13 245)
Income taxes paid	(14 281)	(6 514)
Net cash used in operating activities	(20 286)	(134 252)
Cash flows from investing activities		
Proceeds from sale of plant and equipment	375	719
Payments for plant and equipment	(12 284)	(14 545)
Purchase of controlled entity	(942)	(4 609)
Net cash used in investing activities	(12 851)	(18 435)
Cash flows from financing activities		
Proceeds from issue of shares	46 945	5 275
Proceeds from borrowings	112 500	161 387
Repayment of borrowings	(100 000)	–
Dividends paid	(21 656)	(18 971)
Net cash provided by financing activities	37 789	147 691
Net increase/(decrease) in cash held	4 652	(4 996)
Cash at the beginning of the financial year	1 943	6 939
Cash at the end of the financial year	6 595	1 943

Additional information:

a Net profit after tax is $25 270, which included a gain on the sale of plant and equipment of $250 (on plant and equipment that cost $2000).

b There was no opening or closing balance in dividends payable.

c Accounts receivable increased by $20 000 during the year.

d Interest payable at 30 June 2019 was $2154, and at 30 June 2018 was $3712.

Required:

1 How much would retained profits have increased or decreased during the year, assuming no transfers to or from reserves?

2 What were the company's sales for the year?

3 What was the book value of the plant and equipment sold?

4 What was the interest expense for the year?

5 Based only on the information given in the question, list two reasons why net profit would be higher than cash flow from operations.

PROBLEM 14.19

Preparation of a statement of cash flow (advanced)

An income statement and a comparative balance sheet for Borachio Ltd are as follows:

BORACHIO LTD
COMPARATIVE BALANCE SHEET AS AT 30 JUNE 2019 AND 2018

	2019 $000	2018 $000
Cash	162	144
Accounts receivable	145	128
Allowance for doubtful debt	(16)	(12)
Inventory	175	190
Prepaid insurance	9	6
Long-term investments	205	163
Land	172	149
Equipment	449	437
Accumulated depreciation – equipment	(214)	(149)
Total assets	1 087	1 056
Accounts payable	87	51
Accrued expenses	27	11
Interest payable	9	9
Income tax payable	44	23
Final dividends payable	16	12
Bonds payable	100	250
Share capital	490	420
Retained earnings	314	280
Total liabilities and shareholders' equity	1 087	1 056

BORACHIO LTD
INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE 2019

	$000	$000
Sales		1 520
COGS		(1 110)
Gross Profit		410
Operating expenses		
Bad debts expense	(15)	
Insurance expense	(9)	
Depreciation expense	(65)	
Other operating expenses	(85)	
Total operating expenses		(174)
		236
Other income:		
Dividends received	5	

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Other expenses:		
Interest expense	(25)	
Loss on disposal of land	(18)	
		(38)
Income before income tax		198
Income tax		88
Net profit		110

The following additional information during the year was obtained from an examination of the ledger:

a A parcel of land with an original cost of $60 000 was sold.

b All sales over the year are made on credit.

Required:

1 Prepare a statement of cash flows (direct method) for the year ended 30 June 2019.

2 Prepare a reconciliation statement (indirect method) for the year ended 30 June 2019.

PROBLEM 14.20

Ethics of cash flow manipulation

There is an interesting ethical issue behind the very reason that the statement of cash flows is thought by some people to have advantages over the income statement. The reason is that people are often mistrustful of the income statement because they feel its accrual accounting methods can be used to manipulate net profit as a measure of performance, and they think that the cash flow figures are more 'real'. For example, a company might claim large revenues, not yet collected, that make its revenue higher (via the entry DR accounts receivable, CR revenue). However, if the cash has not been collected, the increase in accounts receivable will be deducted from net profit on the statement of cash flows, and the lack of 'real' cash inflow will be apparent because cash from operations will be lower than would be expected from the profit number. Therefore, it is thought the statement of cash flows' cash from operations figure is more believable than net profit and will even, if it is very different from net profit, unmask manipulations of the net profit.

The ethical issue is that it is possible to manipulate the cash flow figures too. For example, a company might accelerate or delay receivables collections in order to change the cash flow figures – whether or not the net profit is also being manipulated. There may be a difference from manipulating net profit, however, because changing cash flow figures requires real actions that affect customers or suppliers or employees. Therefore, there are real consequences, such as irritating customers or having to offer inducements for early payment. Nevertheless, it can be done.

It seems that most people would feel that altering the accruals just to make net profit better (or worse, or smoother) is ethically questionable, even if it is understandable because of the way management is evaluated and rewarded. But is altering the cash flow ethically questionable? Is there an ethical problem if management decides to put pressure on customers to accelerate collections and improve the company's cash position? It sounds like good management, not like manipulation.

Suggest two or three ways, not included above, in which operating, investing or financing cash flows could be altered from their normal levels. For each, discuss whether, or under what conditions, you would think there is an ethical problem with such an alteration.

CASES

CASE 14A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in this book's appendix. All questions relate to the consolidated accounts.

1 What are the main components of cash flows from operating activities?

2 What are the main components of cash flows from investing activities?

3 What are the main components of cash flows from financing activities?

4 Reconcile the dividends paid and provided figure in the retained profits note with dividends paid in the cash flow statement.
5 What does the company define as cash and cash equivalents?
6 How does the cash flow statement relate back to the balance sheet?
7 List five key things you learn about this company from its statement of cash flows.

CASE 14B Consolidated cash flow statement for Qantas Ltd

QANTAS GROUP

	Notes	2017 $m	2016 $m
Cash flows from operating activities			
Cash receipts from customers		16 947	17 320
Cash payments to suppliers and employees (excluding cash payments to employees for redundancies and related costs, Wage Freeze bonus and Record Results bonus)		(13 982)	(14 197)
Cash generated from operations		2 965	3 123
Cash payments to employees for redundancies and related costs		(50)	(90)
Cash payments to employees for Wage Freeze bonus and Record Results bonus		(87)	(53)
Interest received		37	64
Interest paid		(164)	(227)
Dividends received from investments accounted for under the equity method		7	4
Income taxes paid (foreign)		(4)	(2)
Net cash from operating activities	21(A)	2 704	2 819
Cash flows from investing activities			
Payments for property, plant and equipment and intangible assets		(1 368)	(1 618)
Interest paid and capitalised on qualifying assets	4	(45)	(24)
Payments for investments accounted for under the equity method		(16)	(39)
Proceeds from disposal of property, plant and equipment		34	509
Net loan repayment from investments accounted for under the equity method		–	27
Net cash used in investing activities (excluding aircraft operating lease refinancing)		(1 395)	(1 145)
Aircraft operating lease refinancing		(651)	(778)
Net cash used in investing activities		(2 046)	(1 923)
Cash flows from financing activities			
Payments for share buy-back		(366)	(500)
Payments for capital return		–	(505)
Payments for treasury shares		(198)	(75)
Proceeds from borrowings		419	–
Repayments of borrowings		(453)	(807)
Net receipts for aircraft security deposits and hedges – related to debt		8	62
Dividends paid to shareholders		(261)	–
Dividends paid to non-controlling interests		(3)	–
Net cash used in financing activities		(854)	(1 825)
Net decrease in cash and cash equivalents held		(196)	(929)
Cash and cash equivalents at the beginning of the year		1 980	2 908
Effects of exchange rate changes on cash and cash equivalents		(9)	1
Cash and cash equivalents at the end of the year	8	1 775	1 980

Qantas Annual Report 2017. Positioning for Sustainability and Growth, p. 61.

1 What do you learn about Qantas from the statement of cash flows for the year ended 30 June 2017?
2 What are the major changes between the two years?

CASE 14C Interpreting the One.Tel Limited statement of cash flows

Shown below are the 1999 and 2000 cash flow statements for One.Tel Limited, a telecommunications company that was delisted in 2001.

	Consolidated	
	2000 $m	1999 $m
Cash flow from operating activities		
Receipts from customers	510.9	300.1
Payments to suppliers and employees	(684.8)	(328.1)
Interest received	16.9	1.9
Interest and other borrowing costs paid	(11.9)	(3.5)
Income tax refunded	–	0.7
Net cash used by operating activities	(168.9)	(28.9)
Cash flow from investing activities		
Proceeds from sale of investments	–	1.6
Proceeds from sale of plant and equipment	–	19.2
Payment for plant and equipment	(87.5)	(34.0)
Purchase of licences	(525.6)	(9.5)
Purchase of controlled entities	–	(6.9)
Payment of deferred consideration	(1.8)	–
Loans provided to wholly owned entities	–	–
Loans provided to other parties	–	(2.6)
Net cash used by investing activities	(614.9)	(32.2)
Cash flow from financing activities		
Proceeds from issue of shares	818.5	280.3
Proceeds from borrowings	139.8	59.0
Finance lease principal repayments	(11.2)	(4.2)
Dividends paid	(1.8)	(2.5)
Share buyback	–	(106.4)
Net cash provided by financing activities	945.3	226.2
Net increase in cash held	161.5	165.1
Cash and cash equivalents at beginning of year	172.6	8.4
Exchange rate adjustment	1.6	(0.9)
Cash and cash equivalents at end of year	335.7	172.6

Source: One.Tel Limited.

1 Outline what you can learn about One.Tel from the above statement of cash flows.
2 Which factors in the statement of cash flows indicate that the company would fail within one year, and which factors indicate they would not?

CASE 14D Variations in the pattern of cash flows

Shown below is the 2017 statement of cash flows for Telstra Limited. Explain these changes in the pattern of cash flows between 2017 and 2016.

TELSTRA GROUP

	Note	Year ended 30 June 2017 $m	2016 $m
Cash flows from operating activities			
Receipts from customers (inclusive of goods and services tax (GST))		31 288	31 163
Payments to suppliers and employees (inclusive of GST)		(21 997)	(21 179)
Government grants received		235	182
Net placement of deposits by Autohome Inc. that are not part of cash equivalents		–	(173)
Net cash generated by operations		9 526	9 993
Income taxes paid	2.4	(1 751)	(1 860)
Net cash provided by operating activities	2.6	7 775	8 133
Cash flows from investing activities			
Payments for property, plant and equipment		(3 725)	(3 051)
Payments for intangible assets		(1 596)	(1 143)
Capital expenditure (before investments)		(5 321)	(4 194)
Payments for business and shares in controlled entities (net of cash acquired)	6.1	(63)	(92)
Payments for joint ventures and associated entities	6.3	(6)	(38)
Payments for other investments		(76)	(67)
Total capital expenditure (including investments)		(5 466)	(4 391)
Proceeds from sale of property, plant and equipment		679	470
Proceeds from sale of business and shares in controlled entities (net of cash disposed)		–	1 340
Proceeds from sale of other investments		285	56
Distributions received from joint ventures and associated entities		10	82
Interest received		109	131
Other		104	105
Net cash used in investing activities		(4 279)	(2 207)
Operating cash flows less investing cash flows		3 496	5 926
Cash flows from financing activities			
Proceeds from borrowings		4 710	4 987
Repayment of borrowings		(4 571)	(3 954)
Repayment of finance lease principal amounts		(131)	(101)
Share buy-back		(1 502)	–
Purchase of shares for employee share plans		(22)	(68)
Finance costs paid		(854)	(860)
Dividends paid to equity holders of Telstra Entity	4.1	(3 736)	(3 787)
Other		2	6
Net cash used in financing activities		(6 104)	(3 777)

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Net (decrease)/increase in cash and cash equivalents		(2 608)	2 149
Cash and cash equivalents at the beginning of the year		3 550	1 396
Effects of exchange rate changes on cash and cash equivalents		(6)	5
Cash and cash equivalents at the end of the year	2.6	936	3 550

Telstra Corporation Limited, *2017 Annual Report*, p. 74.

CASE 14E Interpreting a cash flow statement for two retailers

Shown below are extracts from the 2017 statement of cash flows from two Australian companies, Myer Holdings Limited and Harvey Norman Holdings Limited.

MYER HOLDINGS LTD

	Notes	2017 52 weeks $000	2016 52 weeks $000
Cash flows from operating activities			
Receipts from customers (inclusive of goods and services tax)		2 931 853	3 101 149
Payments to suppliers and employees (inclusive of goods and services tax)		(2 744 651)	(2 915 467)
		187 202	185 682
Other income		–	71
Interest paid		(10 165)	(15 894)
Tax paid		(27 759)	(20 369)
Net cash inflow from operating activities	D2	149 278	149 490

Source: Myer Holdings Limited, *2017 Annual Report*, p. 63.

HARVEY NORMAN HOLDINGS LTD

		CONSOLIDATED	
	Note	June 2017 $000	June 2016 $000
Cash flows from operating activities			
Net receipts from franchisees		882 476	949 242
Receipts from customers		1 992 891	1 932 417
Payments to suppliers and employees		(2 252 918)	(2 267 638)
Distributions received from joint ventures		11 546	10 565
GST paid		(44 621)	(52 207)
Interest received		4 971	7 595
Interest and other costs of finance paid		(19 420)	(28 829)
Income taxes paid		(152 454)	(115 535)
Dividends received		2 669	2 081
Net cash flows from operating activities	28(b)	425 140	437 691

Source: Harvey Norman Holdings Limited, *Annual Report 2017*, p. 75.

1 State what you learn from the two statements.
2 Which do you find to be more informative?

CASE 14F Interpreting a cash flow statement

Obtain the cash flow statement from Billabong International Limited's *2017 Annual Report* and comment on what you learn about cash flow from operating activities, cash flow from investing activities and cash flow from financing activities.

Outline the five most important things you learn from Billabong International Limited's 2017 cash flow statement.

HOW'S YOUR UNDERSTANDING SOLUTIONS

14A \$50 000 + \$30 000 − \$20 000 − \$15 000 − \$35 000 = \$10 000.

14B \$100 000 + \$170 000 = \$270 000.

14C (i) Operating cash flow
(ii) Financing cash flow
(iii) Financing cash flow
(iv) Operating cash flow
(v) Operating cash flow
(vi) Investing cash flow
(vii) Financing cash flow
(viii) Financing cash flow

14D

DR	Accounts receivable	100 000	
CR	Sales		100 000
DR	COGS	70 000	
CR	Inventory		70 000

14E Opening balance + Credit sales − Cash received from customers = Closing balance
\$100 000 + \$300 000 − Cash = \$180 000
Cash = \$220 000

14F Opening inventory + Purchases − COGS = Closing inventory
250 000 + P − 600 000 = 290 000
P = 640 000
\$130 000 + \$640 000 − amount paid to suppliers = \$190 000
Amount paid to suppliers = \$580 000

14G \$24 000 + Cash − \$69 000 = \$27 000
Cash = \$72 000

14H \$50 000 + \$200 000 − Cash = \$75 000
Cash = \$175 000

14I

DR	Cash	80 000	
DR	Loss on sale	20 000	
DR	Accumulated depreciation	150 000	
CR	Equipment		250 000

14J \$31 000 + \$10 000 − \$2000 − \$15 000 + \$7000 − \$8000 = \$23 000.

14K

	Operating	Investing	Financing
(i)	Increase	No effect	No effect
(ii)	Increase	No effect	No effect
(iii)	Decrease	No effect	No effect
(iv)	No effect	Increase	No effect

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1 The direct method

Cash received from customers	=	Sales + Decrease in debtors
	=	13 000 + 2000
	=	15 000
Cash paid to suppliers	=	COGS + Increase in inventory + Decrease in accounts payable
	=	6000 + 1800 + 3100
	=	10 900
Cash paid for operating expenses	=	2200
Income taxes paid	=	Income tax expense – Increase in income tax payable
	=	1100 – 600
	=	500

JKL LIMITED
STATEMENT OF CASH FLOWS FOR THE YEAR ENDED 30 JUNE 2019

	$
Cash flows from operating activities	
Receipts from customers	15 000
Payments to suppliers	(10 900)
Income tax paid	(500)
Operating expenses	(2 200)
Net cash provided by operating activities	1 400

2 The indirect method

Operating profit after tax	2 300
+ Non cash expenses (depreciation)	1 400
+ Decrease in accounts receivable	2 000
– Increase in inventory	(1 800)
– Decrease accounts payable and accrued expenses	(3 100)
+ Increase in taxes payable	600
= Cash flows from operating activities	1 400

PRACTICE PROBLEM B

1	Cash payments for purchases	=	COGS + Increase in inventory – Increase in accounts payable
		=	2 300 000 + 310 000 – 95 000
		=	2 515 000
2	Cash paid for income tax	=	Income tax expenses – Increase in taxes payable
		=	48 000 – 5500
		=	42 500
3	Cash receipts from customers	=	Sales – Increase in accounts receivable
		=	7 640 000 – 870 000
		=	6 770 000

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4	Cash paid for wages	=	Wages expense + Decrease in wages payable
		=	2 350 000 + 490 000
		=	2 840 000

PRACTICE PROBLEM C

TUT LTD
STATEMENT OF CASH FLOWS FOR YEAR ENDED 30 JUNE 2019

	$000
Cash from operating activities	
Cash received from customers	522
Cash paid to suppliers and employees (210 + 45 + 132)	(387)
Income tax paid	(70)
Net cash flow from operating activities	65
Cash from investing activities	
Sale of motor vehicles	55
Purchase of motor vehicles	(110)
Purchase of equipment	(130)
Net cash flow from investing activities	(185)
Cash from financing activities	
Repayment of borrowings	(20)
Final dividend paid	(60)
Proceeds from share issue	170
Net cash flow from financing activities	90
Net cash outflow	(30)
Cash opening balance	20
Cash closing balance (i.e. overdraft under current liabilities)	(10)

Reconciliation of net cash provided by operating activities to operating profit after income tax:

	$000
Operating profit after income tax	56
Depreciation expense (38 + 50)	88
Loss on sale of motor vehicles	25
Change in assets and liabilities:	
Increase in accounts receivable	(38)
Decrease in inventory	20
Decrease in accounts payable	(60)
Decrease in income tax payable	(26)
Net cash provided by operating activities	65

Workings:

Accounts receivable			
Bal	105	Cash*	522
Sales	560		
Bal	143		

Inventory			
Bal	220	COGS	170
Purchases*	150		
	370		

Prepaid insurance			
Bal	10	Insurance expense	45
Cash*	45		
	10		

Accounts payable			
Cash*	210	Bal	265
		Purchases	150
		Bal	205

Other expenses			
Depreciation MV	38		
Depreciation equipment	50		
Cash*	132		
	220		

Equipment			
Bal	450		
Borrowings	60		
Cash*	130		
	640		

Accum. depn – equipment			
		Bal	150
		Depreciation expense*	50
			200

Motor vehicles			
Bal	520	Disposal	145
Cash*	110		
Bal	485		

Accum. depn – motor vehicles			
Disposal	65	Bal	210
		Depreciation expense*	38
		Bal	183

Borrowings			
Cash*	20	Bal	430
		Equipment	60
		Bal	470

Asset revaluation reserve			
		Bal	130
		Land	80
			210

*Balancing figures

COURSEMATE EXPRESS

WEBSITE RESOURCES

CourseMateExpress

Go to **http://login.cengagebrain.com** and use the access code that comes with this book for 12 months access to the resources and study tools for this chapter.

The CourseMate Express website contains:

> student revision quizzes

> glossary of key terms and flashcards

> and more!

NOTE

1 Useful information for this section was provided by Professors Jack Flanagan and Greg Whittred.

Financial statement analysis 15

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 describe the objectives of financial statement analysis (15.1, 15.2)

LO2 identify the limitations of financial statement analysis (15.2)

LO3 prepare common size statements (15.3, 15.4)

LO4 calculate commonly used ratios to analyse a firm's profitability, activity, liquidity and financial structure (15.5)

LO5 explain and use the DuPont system of integrative ratio analysis (15.6)

LO6 use ratios to analyse and evaluate a firm's financial performance and financial position (15.5, 15.7 and 15.8)

LO7 perform 'what if' analysis to identify the impact of events on the ratios (15.9).

CHAPTER OVERVIEW

With the background you now have on the content of financial statements and how financial markets work, you are ready to carry out financial statement analysis. This chapter provides you with tools for the analysis and evaluation of financial position and performance. The main focus is on ratio analysis and there are examples of 'what if' effects analysis.

When you evaluate a company's performance, you need to evaluate it relative to the company's circumstances; for example, comparisons with previous years or with similar companies based on size or on industry.

Ratio analysis is the main technique described in this chapter. Ratios are grouped in specific categories: profitability, activity, liquidity and financial structure, which provide insight into a company's overall performance.

15.1 Investment and relative return

LO1 An investment is made to earn a return. The return is usually thought of in relation to the amount of the investment required to earn it. For example, you might be pleased with a $1000 annual return if you had invested $2000, but disappointed if you had invested $2 million. One way to relate the two components is via return on investment, in which the return is the numerator and the initial investment is the denominator:

Relative return (return on investment) = Return/Investment

Thus we need to have some way of measuring both return and investment if we are to calculate (and evaluate) relative return.

Much of financial statement analysis is based on ratios such as ROI. Some points you should remember about ratios are as follows:

- The purpose of a ratio is to produce a scale-free, relative measure of a company that can be used to compare with other companies, or other years for the same company. Such a measure is scale-free because both numerator and denominator are usually measured in the same units (dollars), which are both related to the size of the company. A large company will have a larger investment than a small one, and should be expected to have a larger return as well, but a ratio like ROI cancels out some of the effects of size, and so allows the large and small companies to be usefully compared.
- The ratio will be unreliable as a comparison, or even misleading or useless, unless its numerator is appropriate. This means that the numerator must be properly calculated, as well as suitable for the comparison being made. The word 'return' in ROI could be defined in various ways, such as net profit, earnings before interest and tax (EBIT) or cash flow from operations. The appropriate choice of numerator depends on the context of the analysis, as we will discuss further. Also, the role of GAAP and other rules in making figures such as net profit meaningful is very important to the conclusions that may be drawn from ratio analysis.
- These same points apply equally to the denominator of the ratio. Possible denominators include total assets, gross assets and shareholders' equity. Additionally, sometimes a doubtful or ambiguous accounting method can create a problem in both the numerator and the denominator, bringing the whole ratio into question. An example here is that if a company chooses a revenue recognition method that increases net profit, it will also make the retained profits figure inflated, throwing into question one of the most widely used ROI-type ratios, called return on equity (ROE), which is calculated as net profit divided by equity (which includes retained profits).

15.2 Introduction to financial statement analysis

LO1 LO2 The purpose of financial statement analysis is to use the financial statements to evaluate an organisation's financial performance and financial position. Therefore, the value of the analysis depends on the quality of the underlying financial statements as well as the analysis undertaken.

Financial evaluation is not just calculation

When you have completed this chapter, you will be able to take a set of financial statements of almost any company and make an evaluation of its performance and position. Remember that such an evaluation is not just a calculation; it is also a judgement based on the calculations that make sense for that company and is based on developing a substantial body of knowledge about the company. The more you know about a company, its business, its industry, its management and its accounting methods, the more useful and credible your analysis will be.

Financial accounting information is not used in a vacuum; it is part of a vast array of information available to investors, creditors, managers and others. Its use is affected by its own quality, such as whether a company's financial statements have been carefully prepared and are comparable with other companies'

statements. Use is also affected by the availability of other sources of information that may contain all or part of what is in the financial statements. Remember the idea from the discussion of capital market research in Chapter 6: it is difficult to 'beat the market' using financial statements, because the statements reflect events which are known to market participants, and other sources of information are also available to those investing in the sharemarket. You should always view financial accounting information as part of a network of information, not as a stand-alone item. To explain and illustrate various techniques, however, this chapter deals with them separately.

Preparation for intelligent analysis

Unless you know why you're doing a financial statement analysis – that is, what decision or evaluation is dependent on it – you can't get very far with it. Also, unless you have substantial knowledge of the organisation, you can't interpret the figures your analysis produces; for example, what is good performance for a new company in a troubled industry may be unsatisfactory for an established company in a prosperous industry.

Much of financial analysis involves ratios. They have little meaning on their own: they are merely indicators that can be interpreted and used meaningfully only with a good understanding of the company, its industry and the accounting policies used in preparing the financial statements. The scale-free nature of a ratio means that it allows comparisons over certain periods of time, among companies of different sizes and with other indicators such as interest rates or share prices. But it also can be tempting to think that when you have calculated a ratio, you have something meaningful in itself. While there is some fundamental meaning in each ratio, as you will see, what the comparisons mean to the analyst's decision must be added by the analyst, using knowledge and information beyond ratios.

Therefore, in order to do an intelligent and useful financial statement analysis, you should do the following:

1. Learn about the organisation, its circumstances and its plans. This is essential in any real analysis: don't be misled by the limited information given for the examples in this book. Be sure to obtain the latest annual report for the organisation (you will find it on its website). The annual report's descriptive sections including the management discussion and analysis and the footnotes to the financial statements will help you learn about the organisation.
2. Obtain a clear understanding of the decision or evaluation to which the analysis will contribute, who the decision-maker is (investor, lender, creditor or management) and what assistance he or she requires.
3. Calculate the ratios, trends and other figures that apply to your specific problem. Don't calculate every possible ratio.
4. Find whatever comparative information you can to provide a frame of reference for your analysis. Industry data, reports by other analysts, results for similar companies or the same company in other years and other such information are often plentiful.
5. Focus on the analytical results that are most significant to the decision-maker's circumstances, and integrate and organise the analysis so that it will be of most help to the decision-maker.

There are many sources of information regarding companies to help you become knowledgeable about them and able to place your analysis in context. As you might expect, there is more information about large companies than small ones, and more about publicly listed companies (those whose shares and other securities are listed on stock exchanges) than about private ones (those that are closely held by a few owners). Company websites will generally make available financial statements and other useful information about the company as a starting point for your analysis.

Preparers of financial statements can choose between a number of accounting policies on which to base the financial information. (You've seen this already in earlier chapters, and you'll see more about it in Chapter 16.) As the analyst of these statements, you may wish to recast them using other policies that you prefer before computing any of the ratios. For example, some analysts deduct intangible assets, such as goodwill, from assets and shareholders' equity before computing ratios. They reason that, because these assets are not physical in nature, some people may doubt their value. Deleting them, therefore, may improve comparability with companies that don't include such assets on their balance sheets.

The validity of financial analysis based on accounting ratios has been challenged. Among the objections are criticisms that future plans and expected results, not historical numbers, should be used in computing ratios, especially liquidity ratios; current market values, not historical numbers, should be used for assets, debts and shareholders' equity in computing performance ratios; and cash flow, not accounting profit, should be used in computing performance ratios. Another objection is that because, at least for public companies, stock markets and other capital markets adjust prices of companies' securities as information comes out, ratios based on publicly available information cannot tell you anything the markets have not already incorporated into security prices. While these criticisms are controversial, they are reminders to use ratios with care and intelligence.

15.3 Common size statements

LO3 While the emphasis in this chapter will be on ratio analysis, it should be noted that another useful method to analyse financial results is the common size financial statement. By calculating all balance sheet figures as percentages of total assets and all income statement figures as a percentage of total revenue, the size of the company can be approximately factored out. This procedure assists in comparing companies of different sizes and in spotting trends over time for a single company.

For example, consider the following income statement for the years ended 30 June 2018 and 2019.

		2019 $000		2018 $000
Sales		1 549		1 289
COGS		387		258
Gross margin		1 162		1 031
Operating expenses				
Administration	101		82	
Selling	125		104	
Distribution	77		66	
Depreciation	124		97	
Other	39	466	32	381
Operating profit before tax		696		650

If we expressed these numbers as a common size statement, the following would result:

		2019 %		2018 %
Sales		100.0		100.0
COGS		25.0		20.0
Gross margin		75.0		80.0
Operating expenses				
Administration	6.5		6.4	
Selling	8.1		8.1	
Distribution	5.0		5.1	
Depreciation	8.0		7.5	
Other	2.5	30.1	2.5	29.6
Operating profit before tax		44.9		50.4

You can see that operating profit before tax as a percentage of sales has dropped from 50.4 per cent to 44.9 per cent. This change is brought about almost exclusively because the COGS expense has become a higher percentage of sales. This technique can be used to identify large changes in composition of revenues, expenses or types of assets, liabilities and equity.

15.4 Woolworths Limited: an example company

To help you see how the analyses in this chapter work, they will be illustrated using the financial statements of Woolworths Limited, a company that all Australians will be familiar with. This company is used in this book because it provides the necessary scope for illustrating a wide variety of analyses. The main reason it is included, though, is to give you a sense of *accomplishment* as you work through this chapter. You will find that, with the accounting knowledge you already have and the techniques outlined in this chapter, you can understand a lot about a company such as Woolworths. While there will be some head scratching as you go, you will be pleased at how knowledgeable you become. LO3

As you are aware, Woolworths Limited is a large retail organisation with virtually all of its operations carried out in Australia and New Zealand. As shown in Note 2 of the annual report (Segment Disclosures) it has five main operating groups:

- Australian food (including Woolworths supermarkets)
- New Zealand food (including Countdown supermarkets)
- Endeavour Drinks (including BWS and Dan Murphy's liquor)
- Big W
- Hotels (ALH Group).

The company closes its books on the last Sunday in June of each year, not at the end of the month. The financial period is therefore measured in weeks. The company closed its books on 25 June for 2017 and 26 June for 2016.

Abridged financial statements from Woolworths' 2017 annual report are in the appendix at the back of this book. *Before you go further*, go to the company's website (www.woolworthslimited.com.au/annualreport/2017) and locate the complete *2017 Annual Report* and read its latest 'Chairman's Report' and 'Managing Director's Report'. This will give you some background to the company and some insights into how management has presented the performance of the company to shareholders in 2017. Within the 2017 financial statements in the appendix, find:

- the 2017 net profit number (called profit/(loss) for the period, $1593.4 million)
- the 25 June 2017 retained earnings ($3797.2 million)
- the decrease in cash held for 2017 ($38.7 million)
- cash flow from operating activities for 2017 ($3122.0 million)
- the 25 June 2017 total assets ($22 915.8 million), total liabilities ($13 039.7 million) and shareholders' equity ($9876.1 million).

As you familiarise yourself with the general content and format of the financial statements, here are a few things to keep in mind:

- The financial statements are consolidated because Woolworths is really a group of companies.
- Woolworths provides figures for the prior year, 2016. We'll make extensive use of the prior-year figures to help you understand the 2017 figures.
- In the auditors' report, the auditors state their opinion that the financial statements give a true and fair view of the financial position as at 25 June 2017 and the profit and the performance for the year ended 25 June 2017.

Shown below are the common size balance sheets for Woolworths, calculated for this example.

WOOLWORTHS LIMITED
COMMON SIZE BALANCE SHEETS*

	2017 $	2016 $
Current assets		
Cash and cash equivalents	4.0	4.0
Trade and other receivables	3.2	3.3
Inventories	17.8	19.4
Other financial assets	0.1	0.2
Assets held for sale	5.4	4.7
Total current assets	30.5	31.6
Noncurrent assets		
Trade and other receivables	0.3	0.4
Other financial assets	2.2	2.7
Property, plant and equipment	36.8	35.2
Intangible assets	28.5	28.0
Deferred tax assets	1.6	2.1
Total noncurrent assets	69.5	68.4
Total assets	100.0	100.0
Current liabilities		
Trade and other payables	29.2	26.7
Borrowings	1.1	2.1
Current tax payable	0.4	0.2
Other financial liabilities	1.4	0.5
Provisions	6.4	8.0
Liabilities directly associated with assets held for sale	0.1	0.9
Total current liabilities	38.5	38.3
Noncurrent liabilities		
Borrowings	12.1	16.5
Other financial liabilities	0.5	0.8
Provisions	4.4	5.9
Other noncurrent liabilities	1.4	1.3
Total noncurrent liabilities	18.4	24.4
Total liabilities	56.9	62.6
Net assets	43.1	37.4
Equity		
Contributed equity	24.5	22.3
Reserves	0.5	0.4
Retained earnings	16.6	13.3
Equity attributable to equity holders of the parent entity	41.6	36.0
Non-controlling interests	1.5	1.3
Total equity	43.1	37.4

*Some rounding errors occur.

Source: the above calculations are based on data from http://www.woolworthslimited.com.au/annualreport/2017/index.html (accessed 24 March 2018).

After common sizing the balance sheets of Woolworths for 2016 and 2017, we can see there has been no major change in the structure of this statement. Total noncurrent assets have increased from 68.4 per cent to 69.5 per cent, because of the relative increase in property, plant and equipment. Under current assets, cash has remained steady at 4.0 per cent, while inventories have decreased as a percentage of total assets from 19.4 per cent to 17.8 per cent. This relative percentage change in inventories led to the 1.1 per cent decrease in current assets as a percentage of total assets.

Woolworths' leverage (gearing) has decreased from 62.6 per cent to 56.9 per cent. Current trade and other payables increased from 26.7 per cent to 29.2 per cent. Under noncurrent liabilities, there is a decrease in borrowings (from 16.5 per cent to 12.1 per cent) and provisions (5.9 per cent to 4.4 per cent), which is primarily responsible for the 6.0 per cent decrease in total noncurrent liabilities (24.4 per cent to 18.4 per cent). Overall, we can see net assets have increased from 37.4 per cent to 43.1 per cent, mainly as a result of the decrease in total liabilities as a percentage of total assets. That is, the company is now relying less on liabilities to finance its assets which indicates that there is a lower risk for shareholders. Given the accounting equation, this is obviously reflected in an equal increase in total equity. This indicates that 43.1 per cent of total assets are financed from shareholders' equity.

15.5 Financial statement ratio analysis

By now you should be familiar enough with Woolworths' financial statements to know where to look for information. Let's turn now to consider how we use ratios to analyse the financial statements. LO4 LO6

The various kinds of ratios that could be used to analyse a company's financial performance and position are outlined in the following pages. (There are more ratios that could be calculated, but this is a meaningful set to start with for most types of companies. Often other ratios that could be calculated are industry-specific and you should research those if you are focused on analysing a particular industry.) Each ratio is illustrated by showing how it is calculated from Woolworths' financial statements in the appendix at the back of this book. Some interpretive and comparative comments are made as illustrations, but the main purpose of this section is to show you how to calculate the ratios.

Exhibit 15.1 (see page 568) provides a summary of the ratios and the calculations. The ratios are categorised as profitability ratios, activity ratios, liquidity ratios and financial structure ratios.

Most figures in the following analysis are given in millions of dollars, as they are in Woolworths' statements. The ratios are calculated here to two decimal places. They could be done to more decimal places, but that would be false accuracy, because the ratios depend on all sorts of judgements and estimates made in assembling the financial statements and, therefore, should not be thought of as precise quantities, but rather as indicators.

At this point it is also important to note a significant event that occurred in 2016 for Woolworths that will impact many of the following ratios. In 2016 Woolworths had a large negative profit (i.e. a loss) due to the sale of its Masters hardware stores. Thus, the 2017 and 2016 figures are not directly comparable. Under these circumstances it is more informative to compare the numbers from continuing operations across the two years. That is, we are comparing operations that continue on from 2016 to 2017 and thus omit the effects of the sale of the Masters' stores. For many of the illustrative examples we will calculate the ratios both profit for the period from continuing operations and profit/loss for the period (which includes the discontinued operations). Our comments will be on comparing the ratios based on continuing operations.

EXHIBIT 15.1

RATIO CALCULATIONS

Ratio	Numerator	Denominator
Profitability ratios		
Return on equity	Operating profit after tax	Shareholders' equity
Return on assets	Operating profit after tax	Total assets
Alternative return on assets	Earnings before interest and tax	Total assets
Profit margin	Operating profit after tax	Sales
Alternative profit margin	Earnings before interest and tax	Sales
Gross margin	Sales – COGS	Sales
Cash flow to total assets	Cash provided by operations	Total assets
Earnings per share	Operating profit after tax – preference share dividends	Weighted average number of ordinary shares outstanding
Price-to-earnings ratio	Market price per share	Earnings per share
Dividend payout ratio	Annual dividends declared per share	Earnings per share
Activity (turnover) ratios		
Total asset turnover	Sales	Total assets
Inventory turnover	COGS	Inventory
Days in inventory	365	Inventory turnover ratio
Debtors turnover	Credit sales	Trade debtors
Days in debtors	365	Debtors turnover ratio
Liquidity ratios		
Current (working capital) ratio	Current assets	Current liabilities
Quick ratio	Cash + accounts receivable + short-term investments	Current liabilities
Interest coverage ratio	Earnings before interest and tax	Net interest expense
Financial structure ratios		
Debt-to-equity ratio	Total liabilities	Total shareholders' equity
Debt-to-assets ratio	Total liabilities	Total assets
Leverage ratio	Total assets	Total shareholders' equity

Profitability ratios

RETURN ON EQUITY (ROE)

Sometimes called return on shareholders' funds or return on net worth, return on equity is calculated as operating profit after tax divided by total shareholders' equity.

ROE = Operating profit after tax/Shareholders' equity

Operating profit after tax generally excludes any extraordinary items or one-off items. Users of financial information (e.g. bankers and share analysts) can choose how they calculate these ratios depending on the purpose of their assessment. Return on equity (ROE) indicates how much return the company is generating on the historically accumulated shareholders' investment (contributed share capital, reserves and retained earnings). Shareholders' equity can be taken straight from the balance sheet or can be computed from the accounting equation as total assets minus total liabilities. The denominator can be year-end equity or average equity over the year; for a growing company, you'd expect a slightly larger ROE figure for the latter.

For Woolworths, using the profit/loss for the period, ROE (based on year-end equity) for the last two years has been:

$$\$1593.4/\$9876.1 = 16.13\% \text{ (for 2017)}$$
$$\$(2347.9)/\$8781.9 = (26.74)\% \text{ (for 2016)}$$

For Woolworths, using the profit for the period from continuing operations, ROE (based on year-end equity) for the last two years has been:

$$\$1482.0/\$9876.1 = 15.01\% \text{ (for 2017)}$$
$$\$762.9/\$8781.9 = 8.69\% \text{ (for 2016)}$$

You can see that there has been a large increase in ROE from 8.69 to 15.01 per cent; however, while 15.01 per cent would be considered pretty strong for many other Australian companies, Woolworths historically has had a return on investment of about 20 per cent. You can further understand the change in the ratio by looking at its components. The numerator has increased from $762.9 million to $1482.0 million. The denominator has also increased at a significant rate from $8781.9 million to $9876.1 million, as per the last line in the balance sheet (total equity) of Woolworths. The main changes in total equity are the increases in retained earnings and issued capital between 2016 and 2017.

The effect of changes in shareholders' equity on profit for the year may depend on when the change occurred. For example, if a large increase occurred in July 2016, you would expect profits to increase more than if it had increased in May 2017, because the additional shareholders' funds were available for use for a longer period. For internal purposes, a company would be able to calculate a more accurate return on equity figure by calculating the average equity over the year, which will vary depending on such things as when new shares are issued or when dividends are paid.

Note that differences between versions of ratios are common. They are usually not large and, as long as you calculate your ratio in the same way from year to year, you should be able to spot major changes and trends regardless of how you calculated the ratio. As mentioned above, users of financial information can choose how they calculate these ratios depending on the purpose of their calculation.

RETURN ON ASSETS (ROA)

A key concern of managers is to determine the return they earn on the assets under their control. Return on assets (ROA) can be calculated as follows:

$$\text{ROA} = \frac{\text{Operating profit after tax}}{\text{Total assets}}$$

Different companies use different versions of the numerator. These include operating profit after tax, operating profit after tax but before interest expense, and operating profit before tax and interest expense. For the denominator, the total assets figure can be the year-end figure or the average over the year. We have given you some alternatives so that you can exercise some care when comparing ratios calculated and presented by different companies. Again, provided a consistent method is used by a company each year, the major trends should show up. You can see the value of being able to calculate ratios that you understand yourself.

For Woolworths, using the profit for the period and year-end total assets, ROA for the last two years has been:

$$\$1593.4/\$22\,915.8 = 6.95\% \text{ (for 2017)}$$
$$\$(2347.9)/\$23\,502.2 = (9.99)\% \text{ (for 2016)}$$

For Woolworths, using the profit for the period from continuing operations and year-end total assets, ROA for the last two years has been:

$$\$1482.0/\$22\,915.8 = 6.47\% \text{ (for 2017)}$$
$$\$762.9/\$23\,502.2 = 3.25\% \text{ (for 2016)}$$

An alternative ROA is often calculated using earnings before interest and tax (EBIT). This ratio is calculated as earnings before interest and tax divided by total assets. EBIT is a measure of profit based on the operating profit before interest and taxes are deducted. This ratio is often used as a measure of the performance of operating managers as interest and taxes expenses are outside their control. It is important to have a performance measure where the components are controllable by those whose performance is being measured. The alternative ROA indicates the company's ability to generate a return on its assets before considering the cost of financing those assets (interest) or taxes. It helps in judging whether borrowing is worthwhile. For example, if it costs 5 per cent to borrow money, the company should expect to earn at least 5 per cent on the assets acquired with the money.

As EBIT is not always shown in the financial statements, it can be calculated by adding interest back to net profit before tax (i.e. EBIT equals net profit before tax plus interest). For Woolworths, it is shown in the income statement as $2326.0 million in 2017 and $1494.9 million in 2016.

For Woolworths, the alternative return on assets from continuing operations figures using EBIT are:

$$\$2326.0/\$22\ 915.8 = 10.15\%\ \text{(for 2017)}$$
$$\$1494.9/\$23\ 502.2 = 6.36\%\ \text{(for 2016)}$$

Note that both the ROA and the alternative ROA ratios have increased from 2016 to 2017, indicating that the company is earning a higher return on the assets under its control.

You may be wondering what the relationship is between changes in ROE and changes in ROA between 2016 and 2017. Leverage provides the link between ROA and ROE. While we will consider the DuPont formula in more detail in section 15.6, at this stage it should be noted that:

$$\text{ROE} = \text{ROA} \times \text{Leverage}$$

The leverage ratio is defined as:

$$\text{Leverage} = \frac{\text{Total assets}}{\text{Shareholders' equity}}$$

The ratio measures the proportion of equity funding in the asset base. The higher the ratio, the smaller the shareholders' funding of assets, and the greater the proportion of total assets that must have been funded by debt.

For Woolworths, the leverage for the last two years has been:

$$\$22\ 915.8/\$9876.1 = 2.32\ \text{times (for 2017)}$$
$$\$23\ 502.2/\$8781.9 = 2.68\ \text{times (for 2016)}$$

As per the ratios calculated above for Woolworths, the relationship is as follows for 2016 and 2017 (using profit for the period from continuing operations):

	ROE	=	ROA	×	Leverage
2017	15.01	=	6.47	×	2.32
2016	8.69	=	3.25	×	2.68

Note: Rounding errors will occur.

In this case, while ROA has increased, leverage has decreased, with the overall impact being to increase ROE.

PROFIT MARGIN

Profit margin is often calculated as operating profit after tax (OPAT) divided by sales.

$$\text{Profit margin} = \text{OPAT/Sales}$$

Profit margin indicates the percentage of sales revenue that ends up as profit, so it is the average profit on each dollar of sales. For example, a 10 per cent profit margin would mean that 10 cents in net profit,

after income tax and all other expenses, is generated from each dollar of sales, on average. It is a useful measure of performance, and gives some indication of pricing strategy or competition intensity. You might expect a discount retailer in a competitive market to have a low profit margin, and an upmarket jeweller to have a high margin, for example.

For Woolworths, the profit margins for 2017 and 2016 can be calculated as shown below. Revenue from the sale of goods is provided in the income statement.

\$1593.4/\$55 475.0 = 2.87% (for 2017)
\$(2347.9)/\$53 473.9 = (4.39)% (for 2016)

If then for Woolworths calculations are based on continuing operations, the results are:

\$1482.0/\$55 475.0 = 2.67% (for 2017)
\$762.9/\$53 473.9 = 1.43% (for 2016)

An alternative version of profit margin can be calculated by dividing EBIT by sales revenue. For Woolworths Limited, this would result in the following ratios:

\$2326.0/\$55 475.0 = 4.19% (for 2017)
\$1494.9/\$53 473.9 = 2.80% (for 2016)

The various versions of the above ratios all indicate that profit margin has improved from 2016 to 2017. The use of EBIT/sales is common in practice as both the numerator and denominator are under management's control. For Woolworths, an increase from 2.80% to 4.19% is substantial although historically these numbers have been above 6.0%.

GROSS MARGIN

Also known as the gross profit ratio, this is calculated as gross profit divided by sales. Woolworths' gross profit is shown on its income statement. If this were not disclosed, you could calculate it as sales minus cost of goods sold.

Gross margin = (Sales – COGS)/Sales

The gross margin provides a further indication of the company's product pricing and product mix. For example, a gross margin of 33 per cent indicates that the company's average mark-up on cost is 50 per cent (revenue equals 150 per cent of cost, so cost is 67 per cent of revenue and gross margin is 33 per cent). This is a rough indicator only, especially for companies with a variety of products or unstable markets.

For Woolworths, the gross margin is calculated as follows:

\$15 928.9/\$55 475.0 = 28.71% (for 2017)
\$15 125.1/\$53 473.9 = 28.29% (for 2016)

Gross margin ratios will depend on the difference in price between what a company pays for the goods it sells and the price it can sell them for. Gross margin has increased slightly from 2016 to 2017. This partly explains the improvement in the profit margin; that is, an increase in a profit margin is either due to a better gross margin ratio or a fall in expenses as a percentage of total sales.

EARNINGS PER SHARE

This ratio is calculated as (operating profit after tax minus dividends on preference shares) divided by weighted average number of ordinary shares outstanding. Earnings per share (EPS) relates earnings attributable to ordinary shares to the number of ordinary shares issued.

Accounting standards require basic earnings per share to be disclosed in every set of accounts. The numerator is operating profit after tax minus any preference dividends. For consolidated financial statements, the profit figure is arrived at after deducting outside equity in the operating profit. The weighted average

number of ordinary shares issued is provided in the annual report, as it could not be calculated by outsiders. It can become quite a complicated calculation, and will be discussed further in later courses.

If a company has potential commitments to issue further shares – such as in stock-option plans to motivate senior management, or preference shares or debt convertible to ordinary shares at the option of the holder of the preference shares – the potential effect of the exercise of such commitments is calculated by showing both basic EPS and fully diluted EPS. ('Dilution' refers to the potential lowering of return to present shareholders resulting from other people's exercising rights arising from commitments already made by the company.)

For Woolworths Limited, the earnings per share is shown on the income statements for 2017 and 2016 as 119.4 cents per share and (97.7) cents per share, respectively. EPS for continued operations was reported as 110.8 cents per share in 2017 and 57.5 cents per share in 2016. The calculation of earnings per share is shown in note 4.1 of Woolworths' financial report.

PRICE-TO-EARNINGS RATIO

This is calculated as current market price per share divided by EPS. The price-to-earnings (PE) ratio relates the accounting earnings and market price of the shares, but since the relationship between such earnings and changes in share market prices is not straightforward (as noted in Chapter 6), the interpretation of PE is controversial. Nevertheless, it is a widely used ratio, appearing in many publications and analyses of companies. Many newspapers around the world include PE in their daily summaries of each company's share market trades and prices.

The idea is that, because market price should reflect the market's expectation of future performance, PE compares the present performance with those expectations. A company with a high PE is expected to show greater future performance than its present level, while one with a low PE is not expected to do much better in the future. High-PE companies are those that are popular and have good share prices, while low-PE companies are not as popular, having low share prices relative to their present earnings. PE is highly subject to general increases and decreases in market prices, so it is difficult to interpret over time, and is more useful when comparing similar companies listed in the same stock market at the same time.

For Woolworths, the ordinary shares had a closing price on the Australian Securities Exchange of $25.36 in the year ended 25 June 2017, and $20.56 in the year ended 26 June 2016. The closing PE ratio was, therefore (based on EPS from continued operations), about 22.89 times for 2017 ($25.36 divided by $1.108) and 49.2 times for 2016 ($28.29 divided by $0.575). Because PE changes as share prices change, with each announcement of an EPS number, it can be monitored regularly to track changes in the market's expectations, particularly changes relative to other companies' PEs.

DIVIDEND PAYOUT RATIO

This ratio is calculated as annual dividends declared per share divided by EPS. This is a measure of the portion of earnings paid to shareholders. For example, if the dividend payout ratio is 0.40, 40 per cent of profit was distributed to shareholders and the remaining 60 per cent was kept in the company (retained profit) to finance assets or reduce debts. A stable ratio would suggest that the company has a policy of paying dividends based on profits, and a variable ratio would suggest that factors other than profits are important in the board of directors' decisions to declare dividends.

For Woolworths, the Five Year Summary indicates that dividends were $0.84 per share in 2017 and EPS was $1.108 (for continuing operations), so the dividend payout ratios for 2017 was 75.81 per cent (0.84 divided by 1.108); that is, Woolworths paid out about 76 per cent of its profit in dividends to its shareholders in 2017.

Activity (turnover) ratios

TOTAL ASSET TURNOVER

Calculated as a ratio of sales to total assets, this and similar turnover ratios relate the company's dollar sales volume to its size, thereby answering the question: how much sales volume is associated with a dollar of assets? Turnover and profit margin ratios are often useful together, because they tend to move in opposite directions. Companies with high turnover tend to have low margins, and those with low turnover tend to

have high margins. Those extremes represent contrary marketing strategies or competitive pressures: pricing low and trying for high volume versus pricing high and making more on each unit sold.

Woolworths' total asset turnover ratio was 2.42 times in 2017 ($55 475.0 million divided by $22 915.8 million) and 2.28 times in 2016 ($53 473.9 million divided by $23 502.2 million). Turnover increased in 2017 because sales increased while total assets decreased. The company is getting more sales out of each dollar of assets.

The asset turnover ratio should also be considered together with the profit margin ratio and the return on assets ratio, that is:

$$\text{ROA} = \text{Profit margin} \times \text{Asset turnover}$$

$$\frac{\text{Net profit}}{\text{Total assets}} = \frac{\text{Net profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total assets}}$$

It can be seen from the above equations that a change in ROA can be the result of either a change in the profit margin, a change in asset turnover, or both. If it is the profit margin, you can drill down further to find the reason for the change (e.g. by looking at the gross margin ratio, expenses/sales ratios and common size statements using the income statements). For example, if the gross margin ratio was constant and the profit margin ratio is increasing the increase is due to lower expenses as seen in expenses/sales ratio. These were discussed earlier in this chapter. If the change is a result of asset turnover, it is possible to drill down further by looking at such ratios as inventory turnover and accounts receivable turnover, which are discussed below.

The calculations for Woolworths are as follows using profit from continuing operations.

	Return on assets	=	Profit margin	×	Asset turnover
2017	$\frac{1482.0}{22\,915.8}$	=	$\frac{1482.0}{55\,475.0}$	×	$\frac{55\,475.0}{22\,915.8}$
	6.47%	=	2.67%	×	2.42 times
2016	$\frac{762.9}{23\,502.2}$	=	$\frac{762.9}{53\,473.9}$	×	$\frac{53\,473.9}{23\,502.2}$
	3.25%	=	1.43%	×	2.28 times

Note: Rounding errors will occur.

This shows that that the increase in both asset turnover (2.28 to 2.42) and profit margin (1.43 to 2.67) has led to the increase in ROA. Similarly, we could do the above analysis using the alternative ROA and alternative profit margin (which uses EBIT rather than OPAT in the calculations).

You can see above how profit margin and asset turnover interact to produce the return on assets. In one company, a low margin and a high turnover may generate the return. In another, a high margin and a low turnover may generate the return. Profit margin and turnover are likely to offset each other in generating the return on assets. This is because competitive pressures are likely to force down selling prices and, therefore, profit margins if a high turnover is desired. Conversely, if you want to cater to the high-priced end of the market, you are not likely to have much sales volume. Think of what great results you'd get if you could get both high margin and high volume (hence our worry about monopolies), or of how disastrous things are for companies stuck with both a low margin and low volume.

INVENTORY TURNOVER

This is calculated as COGS expense divided by inventory. We use closing inventory for the year but if there are large fluctuations in inventory, sometimes average inventory figures are used. This ratio relates the level of inventories to the volume of activity. A company with low turnover may be risking obsolescence or deterioration in its inventory and/or may be incurring excessive storage and insurance costs. In recent years, many companies have attempted to reduce inventories to the minimum, keeping just enough on hand to meet customer demand or even ordering inventory as it is demanded by customers (as in the 'just in time' method of minimising inventories without running out of stock and irritating customers).

For Woolworths Limited, inventories were $4080.4 million for 2017, and $4558.5 million for 2016. These result in turnovers relative to COGS of 9.74 times for 2017 ($39 739.7 million divided by $4080.4 million) and 8.45 times for 2016 ($38 538.6 divided by $4558.5 million).

Inventory turnover can be converted to measure how long, in days, inventory is held on average. This can be achieved by dividing 365 by the inventory turnover rate. This is usually referred to as days' inventory on hand or number of days' stock. For Woolworths Limited, converting the above inventory turnover ratios we get 37.48 days (365 divided by 9.74) and 43.20 days (365 divided by 8.45) for 2017 and 2016, respectively. This decrease in days in inventory indicates Woolworths turned over the inventory at a quicker rate in 2017 than 2016. That is, inventory is staying in the stores for less time.

DEBTORS TURNOVER

Also called accounts receivable turnover, this ratio is calculated by dividing credit sales by trade debtors (accounts receivable). As credit and cash sales are not disclosed separately in an annual report, it is necessary to make some assumptions about the percentage of sales that are on credit. For companies where most sales are on credit (such as BHP, CSR or Telstra), it is normal to use the sales figure given in the annual report. As cash sales are collected immediately, using this figure for retailers such as Woolworths or Coles is meaningless, as most of their sales are for cash. The trade debtors' figure in the ratio refers to gross trade debtors (i.e. before deducting the allowance for doubtful debts). Again, either year-end or average trade debtors can be used, with the latter common particularly where there are substantial fluctuations in debtors.

This ratio can be converted into a time period often called days in debtors or days sales in receivables. This ratio indicates how many days it takes, on average, to collect a day's sales revenue. It becomes sizeable when accounts receivable become larger relative to sales, so a large collection ratio is a negative signal, raising questions about the company's policies of granting credit and the vigour of its collection attempts. The ratio is subject to significant seasonal changes for many companies, usually rising during heavy selling periods (such as just before Christmas for a retailer) and falling during slow times.

As we do not know the percentage of Woolworths' sales that are on credit, calculation of the accounts receivable turnover ratio will be rather uninformative. However, for illustrative purposes we will show you how to calculate it using the information in the annual report, using an assumption that 2 per cent of Woolworths' sales in 2017 were on credit.

	2017
2% of sales (2% of $55 475.0 m)	$1 109.5 m
Gross trade receivables (current) in Note 3.1	$120.9 m
Accounts receivable turnover (1 109.5 m ÷ 120.9 m)	9.18 times
Days in accounts receivable (365 ÷ 9.18)	39.76 days

It is noted that not all ratios are important for all companies. While days in debtors is critical for many companies that sell everything on credit, this is not the case for Woolworths, where a large percentage of sales are cash sales (or sales made on credit card where cash is likely to be received very quickly for a large company).

Liquidity ratios

CURRENT RATIO

Current ratio is calculated as current assets divided by current liabilities. This ratio has already been used several times in this book. It indicates whether the company has enough short-term assets to cover its short-term debts. A ratio above 1 indicates that working capital is positive (current assets exceed current liabilities), and a ratio below 1 indicates that working capital is negative. Generally, the higher the ratio, the greater the financial stability and the lower the risk for both creditors and owners. However, the ratio should not be too high, because that may indicate that the company is not reinvesting in long-term assets to maintain future productivity. Also, a high current ratio can actually indicate problems if inventories are getting larger than they should or collections of receivables are slowing down.

The current ratio is a very commonly used indicator. Many writers use a rough rule that says the current ratio should be around 2 (twice as much in current assets as current liabilities), but this is simplistic. Many large companies regularly operate with a current ratio closer to 1 than 2. The ratio's interpretation depends

on the specific circumstances of each company. Interpretation of it is also complex, because it is a static ratio, measuring financial position at a point in time and not considering any future cash flows the company may be able to generate to pay its debts.

This ratio is most useful for companies that have cash flows that are relatively smooth during the year, and hardest to interpret for those that have unusual assets or liabilities or depend on future cash flows to pay current debts. An example of the latter would be a company that owns a rented building. There may be few current assets and large current liabilities for mortgage payments, but as long as the building is mostly rented and rental revenue is steady, the company is not in difficulty, even though its current ratio is low. However, it is more at risk than a similar company with a higher current ratio, because that company could more easily weather a loss of tenants.

Woolworths' current ratio was 0.79 times at the end of 2017 ($6994.2 million divided by $8824.2 million) and 0.83 times at the end of 2016 ($7427.0 million divided by $8992.7 million). While the ratio appears low – current assets is less than current liabilities – this ratio level is reasonably common for large Australian companies, particularly those with a relatively quick cash flow cycle. In fact, Woolworths can buy inventory, and in general can sell it and get its cash before it has to pay its accounts payable. Given this cash flow cycle, a low current ratio is of less concern.

QUICK RATIO

The quick ratio is also called the acid test. It is calculated as:

Cash + Accounts receivable + Short-term investments/Current liabilities

This is a more demanding version of the current ratio, and indicates whether current liabilities could be paid without having to sell the inventory; that is, it is generally the same as the current ratio, except inventory is removed from the numerator. The ratio is particularly useful for companies that cannot convert inventory into cash quickly if necessary. This is not normally the case for retail companies. As a result, the quick ratio normally has little significance for retailers such as Woolworths Limited. If calculated, it would be $909.4 million plus $744.7 million plus $16.1 million, divided by $8824.2 million = 0.19 times.

INTEREST COVERAGE RATIO

Usually calculated as EBIT divided by net interest expense, interest coverage ratio and similar coverage ratios based on cash flow figures indicate the degree to which financial commitments (in this case, those to pay interest on debts) are covered by the company's ability to generate profit or cash flow. (Net interest refers to the difference between interest expense and interest revenue.) A low coverage ratio (generally below 3) indicates that the company is not operating at a sufficiently profitable level to cover the interest obligation comfortably, and may also be a warning of solvency problems (difficulty in meeting obligations over the long term).

For Woolworths, net interest expense (financing costs from continuing operations) is shown in note 2.2. The interest coverage ratio, calculated using the above formula, is a very healthy 12.01 times in 2017 (2326.0 divided by 193.6) and 6.09 times in 2016 (1494.9 divided by 245.6).

Financial structure ratios

DEBT-TO-EQUITY RATIO

This is generally calculated as total liabilities divided by total shareholders' equity. This ratio measures the proportion of borrowing to owners' investment (including retained profits). Therefore, it indicates the company's policy regarding financing of its assets. A ratio greater than 1 indicates that the assets are financed more with debt, while a ratio of less than 1 indicates that the assets are financed more with equity. A high ratio is a warning about risk: the company is heavily in debt relative to its equity and may be vulnerable to interest rate increases, a general tightening of credit or creditor nervousness. (A high ratio also indicates that the company is highly geared or leveraged, which means that it has borrowed to increase its assets over the amount that could be acquired with owners' funds alone, and hopes thereby to increase returns and benefit the owners.)

Woolworths' balance sheet makes this calculation straightforward, by totalling both liabilities and shareholders' equity. Thus, the ratio for 2017 is 1.32 times ($13 039.7 million divided by $9876.1 million) and for 2016 is 1.68 times ($14 720.3 million divided by $8781.9 million). These ratios show that the company relies on debt more than on equity, but that its relative reliance on debt decreased during 2017.

DEBT-TO-ASSETS RATIO

This ratio is calculated by dividing total liabilities by total liabilities plus shareholders' equity. This is equivalent to dividing total liabilities by total assets (given that total assets equal total liabilities and shareholders' equity). This ratio will be correlated with the debt-to-equity ratio, and indicates the proportion of assets financed by liabilities.

For Woolworths Limited, this ratio equals 56.90 per cent ($13 039.7 million divided by $22 915.8 million) for 2017 and 62.63 per cent ($14 720.3 million divided by $23 502.2 million) for 2016. Consistent with the debt-to-equity ratio, this ratio again shows assets are financed more by debt than equity and this reliance on debt is decreasing.

The debt-to-assets ratio can also be calculated by just comparing long-term debt or external debt to assets. Other variations are possible. As mentioned previously users of financial information can choose how they calculate these ratios depending on the purpose of their calculation. Again, provided a consistent method is used, the major trends should show up.

LEVERAGE RATIO

This is defined as total liabilities plus shareholders' equity all divided by shareholders' equity. Given the accounting equation, it can also be defined as total assets divided by shareholders' equity. The ratio considers how much of assets is financed by equity. The higher the ratio, the smaller the proportion of total assets funded by shareholders' equity and, therefore, the more that is funded by debt.

For Woolworths, the leverage ratio was 2.32 times (22 915.8 divided by 9876.1) in 2017 and 2.68 times (23 502.2 divided by 8781.9) in 2016.

SUMMARY

Ratios are a quick method of breaking the information in the financial statements down into a form that allows for comparability with similar companies and with the financial performance of the company over a number of years. Ratios also offer the advantage that different ratios consider different parts of a company's performance. Thus, if you do not want to investigate anything more about a company than its liquidity, you might only calculate liquidity ratios, such as the quick and current ratios.

Users rely on more than ratios and other calculations from the financial statements when analysing a company's performance. They also rely on the parts of the annual report that precede the financial statements, the auditor's report, notes to the financial statements, reports by various analysts, personal knowledge of management, news media reports and much more.

Some possible pieces of information that users could find in the first part of an annual report include management's interpretation of past and prospective performance, new ventures or growth strategies for the company and indications of the areas of operations that were undergoing stress or change.

Notes to financial statements provide further explanations of some key areas in the statements, as you saw in the calculation of ratios for Woolworths. These can include information about a company's accounting policy for particular accounts, detailed calculations of how some account values were determined, and notifications of any accounting policy changes, significant litigation and other possibly significant items. All this information, along with the statements themselves, and any ratios or other analyses, helps users get a well-rounded picture of the company.

Note that Woolworths does include some of the ratios discussed in this chapter in their annual report; however, they may not be identical to those presented in the chapter. Some of the Woolworths calculations use averages based on information that is often not in an annual report (such as monthly balances).

HOW'S YOUR UNDERSTANDING?

15A How well did Woolworths perform in 2017 compared with 2016?
15B Which companies would Woolworths compare its financial performance with?

15.6 Integrative ratio analysis

With information about a company and knowledge of the purpose of the analysis, the long list of ratios in section 15.5 can be used to reveal many things about a company. You have learned much about Woolworths, but it may not be obvious how to pull all the information together into an overall picture of the company's performance. It is clear that the company is performing better in 2017 than in 2016. Can we fit the ratios together more systematically? Can we use the fact that the ratios are all calculated on the same financial statement figures and therefore tend to connect to each other? We started to do this earlier by showing the link between ROA and ROE, as well as the components of ROA. LO5

The system we will use to link ratios together is known as the DuPont system of ratio analysis. This name is used because DuPont was the first company to formally integrate the system into its organisational and control system back in the 1920s.

The DuPont formula uses the idea of leverage. This is an important objective and consequence of borrowing money, which can then be used to generate returns. Leverage, also called trading on the equity, financial leverage and gearing, works like this:

1 Michael Grunion wants to invest $15 000 in a real estate project.
2 Grunion has $5000 available in personal funds.
3 So, Grunion borrows $10 000 from the bank at 11 per cent interest.
4 Grunion invests the total $15 000 in the project and receives an annual return of $2100.
5 The project's return is 14 per cent before tax ($2100/$15 000).
6 Out of that, Grunion pays the bank interest (11 per cent of $10 000 = $1100).
7 Grunion keeps the rest ($2100 − $1100 = $1000).
8 Grunion's before-tax return on the equity invested is 20 per cent ($1000/$5000).

Not bad! The project returns 14 per cent, but Grunion gets 20 per cent on the equity invested. The reason is that Grunion has borrowed at 11 per cent but has used the borrowed funds to earn 14 per cent. The extra 3 per cent return on the borrowed funds is Grunion's to keep in return for taking the risk of investing in the project:

- Overall return = 14 per cent on $15 000 = $2100.
- Paid to the bank = 11 per cent on $10 000 = $1100.
- Kept by Grunion: 14 per cent on $5000 own funds + 3 per cent on $10 000 borrowed funds.
- Grunion's return = the 14 per cent ($700) + the 3 per cent ($300) = $1000, which is 20 per cent of the $5000.

Grunion has benefited from leverage: borrowing money to earn money.

Leverage is a good way to increase your return, as long as you can ensure that the project's total rate of return is greater than your borrowing cost. It's a double-edged sword, though, because leverage can hit you hard if returns are low or negative.

Suppose Grunion's real estate project returns only 7 per cent. Then look what happens:

- Overall return = 7 per cent on $15 000 = $1050.
- Paid to the bank = 11 per cent on $10 000 = $1100.
- Kept by Grunion: 7 per cent on own funds minus 4 per cent on $10 000 borrowed funds.
- Grunion's return = 7 per cent ($350) − 4 per cent ($400) = −$50, which is −1 per cent of $5000.

Grunion has been hurt by leverage.

So, in this case, Grunion loses on every dollar borrowed, because the project returns less than the cost of borrowing. It's not such a great deal any more! Grunion is losing 1 per cent on the equity invested, but if just that equity had been invested, with no borrowing, Grunion would have made 7 per cent, the project's return. Leverage is now hurting, not helping.

Now that you have this basic understanding of leverage, we will return to the DuPont system. The relationships among the various ratios and how they connect to the financial statements are shown in Figure 15.1. Note that for any money borrowed, if the interest expense is less than the return or the money borrowed (revenues – expenses other than interest) the profit after tax goes up. In this case, the more that is borrowed, the higher ROE goes.

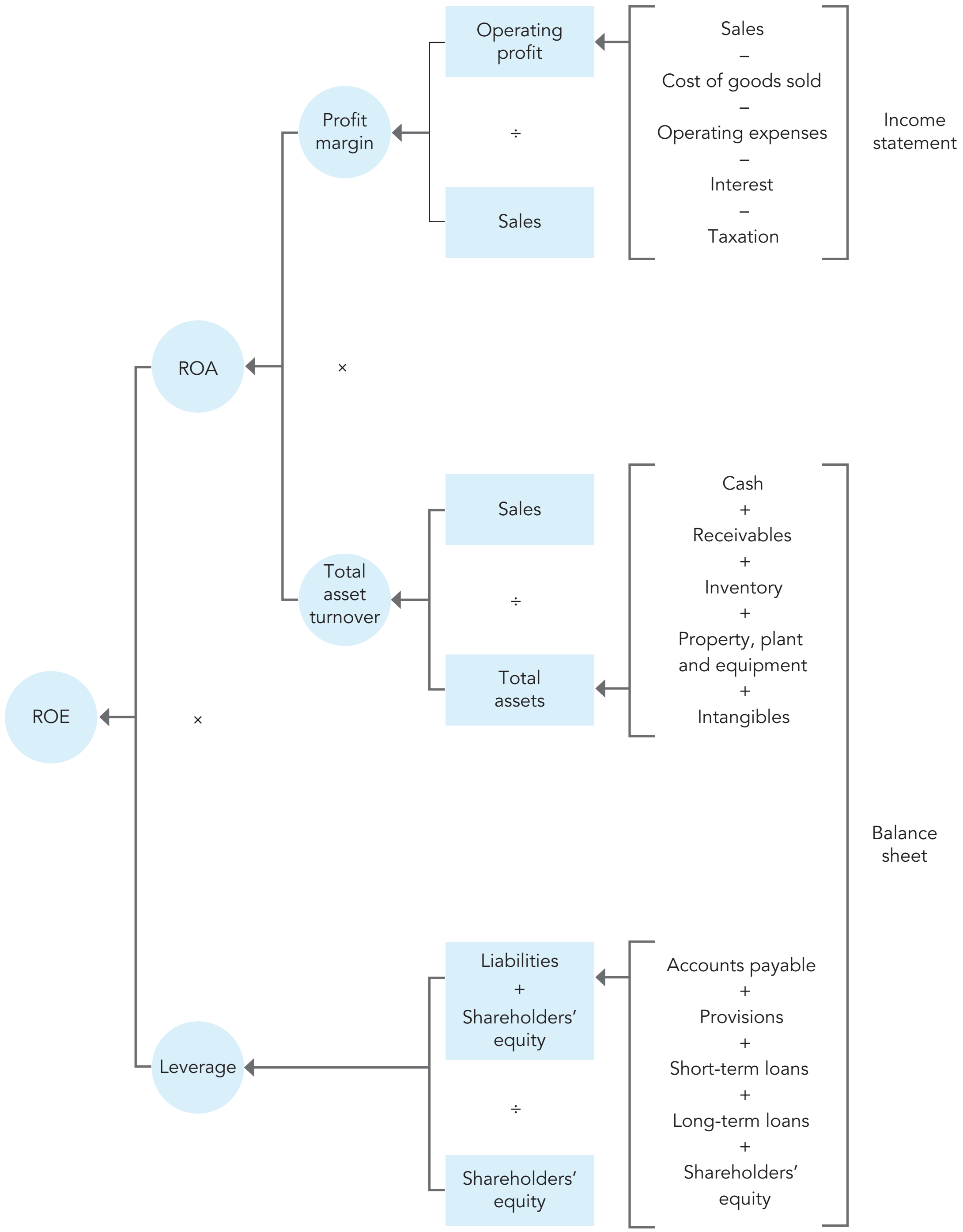

FIGURE 15.1 DuPont system of ratio analysis

As stated in section 15.5, the relationship between the return on equity ratio and its two components can be seen below.

$$\text{ROE} = \text{ROA} \times \text{Leverage}$$

$$\frac{\text{Operating profit after tax}}{\text{Shareholders' equity}} = \frac{\text{Operating profit after tax}}{\text{Total assets}} \times \frac{\text{Total assets}}{\text{Shareholders' equity}}$$

Notice that, for the above relationship, the measure of profit used in the return on assets (ROA) formula is operating profit after tax. This is used because it is consistent with the profit measure used for ROE. The above equation shows that ROE can be explained by two factors: ROA and leverage. Both these factors can in turn be explained by factors to the right of them, in Figure 15.1. When analysing changes in ROE, these changes can be explained by looking at the changes in either ROA and/or changes in leverage. To delve further in the analysis, if there is a change in ROA, this can be the result of a change in profit margin and/or asset turnover.

15.7 Financial statement ratio analysis example

The analyses in this section use the 30 June 2019 financial information of Transport Limited presented in Exhibits 15.2–15.5. LO6

EXHIBIT 15.2

TRANSPORT LIMITED

CONSOLIDATED BALANCE SHEET

	2019 $m	2018 $m
Assets		
Current assets		
Cash and short-term investments	353.0	134.7
Accounts receivable (Note 9)	434.7	395.7
Inventory	134.1	106.4
Prepayments	70.2	87.4
Total current assets	992.0	724.2
Noncurrent assets		
Investments (Note 11)	96.0	105.6
Net PPE (Note 12)	8 393.5	8 219.6
Other assets and deferred charges (Note 13)	1 018.3	907.3
Total noncurrent assets	9 507.8	9 232.5
Total assets	10 499.8	9 956.7
Liabilities		
Current liabilities		
Accounts payable and accrued liabilities	975.3	907.0
Income and other taxes payable	16.2	13.5
Dividends payable	21.0	20.2
Long-term debt maturing within one year (Note 14)	275.7	13.9
Total current liabilities	1 288.2	954.6

Noncurrent liabilities		
Deferred liabilities (Note 16)	767.8	702.8
Long-term debt (Note 14)	3 075.3	3 348.9
Future income taxes (Note 7)	1 386.1	1 295.8
Total noncurrent liabilities	5 229.2	5 347.5
Total liabilities	6 517.4	6 302.1
Net assets	3 982.4	3 654.6
Shareholders' equity (Note 19)		
Share capital	1 421.0	1 412.7
Foreign currency translation adjustments	77.0	88.0
Retained profits	2 484.4	2 153.9
Total equity	3 982.4	3 654.6

EXHIBIT 15.3

TRANSPORT LIMITED

CONSOLIDATED INCOME STATEMENT

	2019 $m	2018 $m	2017 $m
Revenues			
Freight	3 728.8	3 479.3	3 471.9
Other	174.1	181.4	193.7
	3 902.9	3 660.7	3 665.6
Operating expenses			
Wages and employee benefits	1 259.6	1 163.9	1 143.4
Fuel	440.0	393.6	358.3
Materials	178.5	179.2	168.7
Equipment rents	218.5	238.5	255.4
Depreciation and amortisation	407.1	372.3	340.2
Other	682.6	827.6	555.6
	3 186.3	3 175.1	2 821.6
Operating profit	716.6	485.6	844.0
Other charges (Note 5)	36.1	33.5	21.8
Foreign exchange gain on long-term debt	(94.4)	(209.5)	(13.4)
Interest expense (Note 6)	218.6	218.7	242.2
Income tax expense (Note 7)	143.3	41.6	105.9
Net profit	413.0	401.3	487.5
Basic earnings per share (Note 8)	2.60	2.53	3.08
Diluted earnings per share (Note 8)	2.60	2.52	3.06

EXHIBIT 15.4

TRANSPORT LIMITED

STATEMENT OF CONSOLIDATED CASH FLOWS

	2019 $m	2018 $m	2017 $m
Operating activities			
Receipts from customers	3 945.1	3 404.5	3 621.0
Payments to suppliers and employees	(2 780.0)	(2 818.9)	(2 512.6)
Interest paid	(231.2)	(236.0)	(240.2)
Income tax paid	(147.9)	(43.9)	(104.7)
Net cash provided by operating activities	786.0	305.7	763.5
Investing activities			
Additions to properties (Note 12)	(673.8)	(686.6)	(558.5)
Other investments	(2.5)	(21.9)	4.0
Net proceeds from disposal of properties	10.2	8.2	3.5
Cash used in investing activities	(666.1)	(700.3)	(551.0)
Financing activities			
Dividends paid	(81.7)	(80.8)	(80.8)
Issuance of shares	2.5	2.0	2.0
Issuance of long-term debt	193.7	699.8	–
Repayment of long-term debt	(16.1)	(376.6)	(405.7)
Cash provided by (used in) financing activities	98.4	244.4	(484.5)
Cash position			
Increase (decrease) in net cash	218.3	(150.2)	(272.0)
Net cash at beginning of year	134.7	284.9	556.9
Net cash at end of year	353.0	134.7	284.9

EXHIBIT 15.5

TRANSPORT LIMITED

NOTE 6

	2019 $m	2018 $m	2017 $m
Interest expense			
Interest expense	223.9	226.4	254.2
Interest income	(5.3)	(7.7)	(12.0)
Net interest expense	218.6	218.7	242.2
Gross cash interest payments	231.2	236.0	240.2

To make sure you are familiar with the Transport financial statements, and so are ready to start the analysis, answer the following questions:

- What were the company's total assets at 30 June 2019? Was that more or less than for 2018?
- What was the total equity of the company at 30 June 2019?

- What was the company's net profit for the year ended 30 June 2019? What were the main revenues and expenses that led to this profit?
- How much cash was generated by operations for the year ended 30 June 2019? Did the company end up with more or less cash at the end of the year than at the beginning?
- How much did accounts receivable changes contribute to the increases and decreases in non-cash working capital used in calculating cash from operations in 2019?
- What is the link between the statement of cash flows and the balance sheet?
- What is the link between the balance sheet and the income statement?

A range of ratios that could be used to analyse a company's financial performance and position are outlined in the following pages. Each ratio is illustrated by showing how it is calculated from the Transport statements. Some interpretive and comparative comments are made as illustrations, but the main purpose of this section is to show you how to extract the needed information from the statements and figure out the ratios.

Most figures below are given in millions of dollars, as they are in Transport's statements. Ratios are calculated arbitrarily to three decimal places. They could be done to more decimals, but that would be false accuracy, because the ratios depend on all sorts of judgements and estimates made in assembling the financial statements and, therefore, should not be thought of as precise quantities, but rather as indicators.

This section's ratios are summarised in Exhibit 15.7, near the end of the section. They all should be used in combination with each other, because each has only part of the story to tell, but to help you see their main uses, they are grouped into four categories:

- performance ratios
- activity (turnover) ratios
- financial structure ratios
- liquidity and solvency warning ratios.

Performance ratios

RETURN ON EQUITY

Transport's ROE (based on year-end equity) for the last two years was:

- 2019: \$413.0/\$3982.4 = 10.4%
- 2018: \$401.3/\$3654.6 = 11.0%.

The profit return relative to equity was in the range of many companies' ROE. The 2019 return was a little lower than 2018. Both profit and equity were higher at the end of 2019 than at the end of 2018, but equity grew proportionally more at 9.0 per cent ((\$3982.4 − \$3654.6)/\$3654.6) than profit at 2.9 per cent ((\$413.0 − \$401.3)/401.3). The analyses to come will tell us more about how the ROE came about and how it relates to other indicators.

RETURN ON ASSETS

Return on assets is often also called return on investment (or ROI): Transport's ROA, based on year-end assets, was:

- 2019: \$413.0/\$10 499.8 = 3.9%
- 2018: \$401.3/\$9956.7 = 4.0%.

These ROAs were low to moderate. In the present environment, this is not very different to what can be obtained on fixed deposit with the bank. Transport has earned less than this on its assets, but is taking more risk to earn its returns than you might take on bank deposits, so it should be able to do better.

ROE AND ROA

These two relative return ratios may be compared, as is done in the table below. Whenever the ROE exceeds the ROA, it means the company is making extra money for the owners by borrowing to make the assets greater than they would be with just equity funding.

In both years, leverage (as shown in the table) more than doubled the ROA:

- 2019: $10 499.8/$3982.4 = 2.64 times
- 2018: $9956.7/$3654.6 = 2.72 times.

TRANSPORT LIMITED
ROE AND ROA

	ROE	ROA	Leverage
2019	10.4%	3.9%	2.64 times
2018	11.0%	4.0%	2.72 times

Note: ROE = ROA × Leverage (with some rounding differences)

PROFIT MARGIN (OR SALES RETURN)

Transport's profit margin for 2019 was 0.106 ($413.0/$3902.9), and for 2018 was 0.110 ($401.3/$3660.7). Transport earned 10.6 cents per dollar of revenue in 2019 and 11 cents in 2018:

- 2019: ($413.0/$3902.9) = 10.6%
- 2018: ($401.3/$3660.7) = 11.0%.

The combination of freight revenue growth of 7.2 per cent (($3728.8 − $3479.3)/$3479.3), while controlling operating expenses, which increased only 0.35 per cent (($3186.3 − $3175.1)/$3175.1), would lead to an increase in the profit margin. The positive outcome was offset by increases in non-operating costs and lower foreign exchange gains on long-term debt.

GROSS MARGIN (OR PROFIT RATIO)

Gross margin (or profit ratio) cannot be calculated for Transport. The company sells services, not products, so it has no COGS to report.

It is a reminder that financial statement analysis is dependent on the contents of the financial statements. We cannot analyse information we do not have, or that would be irrelevant or inapplicable to the particular company we are analysing.

COMMON SIZE INCOME STATEMENT

However, there are other ways of relating Transport's revenues and expenses. Using the common size income statement shown below, the various categories of expenses can be related to revenue, and that is about all that can be done.

Common size comparisons can be done using a variety of assumptions. To illustrate the analysis, here are common size percentages for the three years included in Transport's income statement. Freight revenue could have been used as the baseline, because freight is Transport's main business, but to connect with other analyses being illustrated, *total revenue* is used here. This is a judgement, of the sort the analyst *always* has to make. To further illustrate judgement, some income statement items were grouped and others were not; different groupings may lead to different conclusions. All percentages were rounded to one decimal place.

TRANSPORT LIMITED
COMMON SIZE INCOME STATEMENTS

	2019 %	2018 %	2017 %
Revenues			
Freight	95.5	95.0	94.7
Other	4.5	5.0	5.3
Total	100.0	100.0	100.0
Operating expenses			
Wages and employee benefits	32.3	31.8	31.2
Fuel	11.3	10.8	9.8
Other expenses	38.1	44.2	36.0
Operating profit	18.3	13.2	23.0
Foreign exchange gain	(2.4)	(5.7)	(0.4)
Interest and other charges	6.5	6.9	7.2
Income tax expense	3.7	1.1	2.9
Net profit	10.5	10.9	13.3

Two interesting trends are immediately apparent: wages and employee expenses as a percentage of sales have increased each year, and interest and other charges have been falling. The reduction in interest and other charges has been insufficient to offset the rising operating costs.

EARNINGS PER SHARE

Transport had no discontinued operations, but it did have commitments potentially requiring it to issue more shares (stock options). Therefore, the income statement shown at the beginning of this section shows two EPS figures for each year:

- 2019: basic EPS = $2.60; diluted EPS = $2.60
- 2018: basic EPS = $2.53; diluted EPS = $2.52.

The weighted average number of common shares outstanding during 2019 was 158.7 million (158.5 million for 2018). The dilutive effect of the outstanding share options is quite small: less than $0.01 in 2019 and only $0.01 in 2018. This indicates Transport has granted only a relatively small number of stock options to its employees in recent years.

BOOK VALUE PER SHARE

Book value per share is calculated as (shareholders' equity – preference shares)/number of common shares issued. We have not discussed this ratio earlier, so a bit more detail is provided here. Similar to EPS, this ratio relates the portion of the shareholders' equity attributable to the residual common shareholders to the number of shares outstanding, and so brings the company balance sheet down to the level of the individual shareholder. It is not really a performance ratio, but shareholders' equity does include retained profit, so it incorporates accumulated performance. Because the balance sheet's figures do not reflect the current market value of most assets or of the company as a whole, many people feel that book value per share is a largely meaningless ratio. Other people feel that, as an accumulation, it is less subject to manipulation than annual earnings, and some accounting research uses book value per share as a preferred measure to EPS. In any case, you will see it mentioned in many financial publications.

Using the same 158.7 million shares outstanding at the end of 2019, and the 158.5 million shares outstanding at the end of December 2018 (a small number having been issued under stock option plans) for 2019, Transport's book value per common share was:

- 2019: $3982.4/158.7 = $25.09
- 2018: $3654.6/158.5 = $23.06.

Normally, book value per share increases as retained profits accumulate and new shares are issued. Indeed, the increase in book value per share of $2.03 ($25.09 − $23.06) is very close to the increase in retained profits per share, $2.08 (($2484.4 − $2153.9)/158.7).

The company's closing share price on 31 December 2019 was $41.10, so its price to book ratio was 1.64 ($41.10/$25.09 from above). Thus the company's *market capitalisation* was 64 per cent higher than its book value. With 158.7 million shares outstanding, the stock market valued Transport at about $6.5 billion, compared to its equity book value of around $4 billion.

PRICE-TO-EARNINGS RATIO

Transport's stock price has fluctuated somewhat throughout 2018 and 2019, but the trend has been to fairly steady growth. Using the year-end closing prices, which are close to the highs for the year, gives a conservative view of the price-to-earnings ratio:

- 2019: PE = $41.10/$2.60 = 15.8 times
- 2018: PE = $36.58/$2.53 = 14.5 times.

This is a solid PE, again indicating that the market sees Transport as a good, fairly safe investment – no high-flyer, but not likely to suddenly go bust either. Many PE ratios in recent years were high, compared to historical trends. To get an idea of the range of PEs, check the financial section of your daily newspaper or the business section of a news website.

DIVIDEND PAYOUT RATIO

The dividend payout ratio is calculated as annual common dividends declared per share divided by EPS; or, if dividends per share are not disclosed, just dividends declared divided by net profit. This is a measure of the portion of earnings paid to shareholders. For example, if the dividend payout ratio is 0.40, then 40 per cent of profit was distributed to shareholders, and the remaining 60 per cent was kept in the company (retained profits) to finance assets or reduce debts. A stable ratio would suggest that the company has a policy of paying dividends based on earnings, and a variable ratio would suggest that factors other than earnings are important in the board of directors' decisions to declare dividends.

Transport has only a short history of dividend payouts. We can learn the total dividends amount each year from the statement of retained profits. Using this information and the average number of shares outstanding, an estimate of annual dividends can be calculated.

From the information in Exhibit 15.6 we can infer that Transport appears to be conservative and stable. It appears that the board of directors has chosen to follow a policy of conservative stable dividends in the amount of about $0.52 per share yearly or 20 per cent of total net profit.

EXHIBIT 15.6

TRANSPORT LIMITED

ESTIMATE OF ANNUAL DIVIDENDS

	2019	2018	2017
Dividends declared ($ millions)	82.5	80.8	80.8
Net profit ($ millions)	413.0	401.3	487.5
Weighted average number of shares outstanding (millions)	158.7	158.5	158.5
Basic EPS ($)	2.60	2.53	3.08
Dividend per share (calculated) ($)	0.52	0.51	0.51
Dividend payout ratio (%)	20.0	20.2	16.6

The dividend payout ratio is usually consistent with the company's PE ratio. Fast-growing companies are often strapped for cash, so pay few or no dividends, ploughing earnings back into more growth. People hold the shares of such companies because they expect growth in share price, not dividends, and because of such expectations of future growth, the PE ratios of such companies are usually high. In contrast, people invest in some duller, but safer, companies not because they expect high share price growth but because they expect regular dividends. Transport pays more than zero dividends, but with its supply of cash could have paid a higher percentage of earnings than it did. This reinforces the growing conclusion from these ratios that Transport is a solid, moderate company, not a high-growth one – as we would expect from a transport company that is more than 100 years old.

Activity (turnover) ratios

TOTAL ASSET TURNOVER

Using year-end assets, Transport's total asset turnovers were:

- 2019: $3902.9/$10 499.8 = 0.372 times
- 2018: $3660.7/$9956.7 = 0.368 times.

Two observations are indicated.

- These turnover ratios are very low. They are much below those that most companies have. Transport takes nearly three years to earn a dollar of revenue on each dollar of assets. These are much lower than Woolworths. But what would we expect? Transport has thousands of truck depots, maintenance shops and so on. Woolworths is a retailer, depending on high sales volume. It is a reminder to consider the kind of company being analysed, and a reminder that there are no absolute ratios, only relative comparisons.
- Transport's asset turnover improved slightly from 2018 to 2019. This improvement is the result of higher growth in revenues, 6.6 per cent (($3902.9 − $3660.7)/$3660.7), than in assets, 5.5 per cent (($10 499.8 − $9956.7)/$9956.7). While the change is small, it is another indication of the stability of Transport.

INVENTORY TURNOVER

As we have already seen, Transport does not have a COGS, and its balance sheet indicates its inventories are just supplies for running the transport, not goods for sale, so we cannot calculate a meaningful inventory turnover ratio. Using Transport as the example company has this shortcoming, but it does not mean the inventory turnover ratio is not important or useful. It is very important for evaluating retailers and other sellers of goods.

DEBTORS TURNOVER

Debtors turnover is also known as receivables turnover, often called days' sales in receivables: Transport's collection ratios were:

- 2019: $434.7/($3902.9/365) = 40.7 days
- 2018: $395.7/($3660.7/365) = 39.5 days.

It would be preferable to use only revenue from credit sales in the denominator, since cash sales are collected immediately, but few companies break their revenue figures down to separate cash revenue.

It takes the company about a month and one-third, on average, to collect from its customers. This is reasonable time: most customers pay monthly, and Transport may have some relatively slow payers among its customers.

Financing ratios

DEBT-TO-EQUITY RATIO

Transport's debt-to-equity ratios were:

- 2019: $6517.4/$3982.4 = 1.64 times
- 2018: $6302.1/$3654.6 = 1.72 times.

The debt-to-equity ratio certainly shows that Transport is leveraged, relying more on debt than on equity, but that its relative reliance on debt is decreasing.

LONG-TERM DEBT-TO-EQUITY RATIO

Another version of debt-to-equity ratio is long-term debt-to-equity ratio, calculated as (long-term loans + mortgages + bonds + similar long-term debts) divided by total equity. This ratio has many versions, depending on which specific items the analyst decides to include as debt. It is frequently referred to as the debt-to-equity ratio, under the apparent assumption that longer-term debt is more relevant to evaluating risk and financing strategy than are the accrual and non-interest-bearing components of total liabilities.

For Transport, this ratio involves just the one long-term debt figure on the balance sheet. Not including the debt's current portion, the resulting ratios were:

- 2019: $3075.3/$3982.4 = 0.77 times
- 2018: $3348.9/$3654.6 = 0.92 times.

Again we see the downward trend in Transport's reliance on debt.

DEBT-TO-ASSETS RATIO

Using total liabilities, the ratios for Transport were:

- 2019: $6517.4/$10 499.8 = 0.62 times
- 2018: $6302.1/$9956.7 = 0.63 times.

The pattern is the same as for the debt/equity ratios.

Liquidity and solvency warning ratios

CURRENT RATIO (WORKING CAPITAL RATIO)

Transport's current ratio changed only slightly in 2019:

- 2019: $992.0/$1288.2 = 0.77 times
- 2018: $724.2/$954.6 = 0.76 times.

This ratio shows Transport's working capital position to be negative; that is, there are insufficient current assets on hand to repay all current liabilities. We have noted throughout that Transport is a very stable company. It is also the case that Transport generates its revenue using its long-term assets to provide service rather than selling its current assets, as in the case with retailers. Thus, by using its current revenues as earned and collected, Transport is able to meet the required payments of expenses and current liabilities despite the working capital deficit.

QUICK RATIO (ACID TEST RATIO)

Using the quick ratio is likely to be informative if a company's working capital includes large amounts of inventories that would have to be sold to pay bills, or large prepaid expenses that have drained cash. Transport doesn't have either of these, so the quick ratio will not tell us much more than the current ratio does, but let's calculate it anyway. The ratio is shown below:

- 2019: ($353.0 + $434.7)/$1288.2 = 0.61 times
- 2018: ($134.7 + $395.7)/$954.6 = 0.56 times.

This shows Transport to have liquid assets equal to only 60 per cent of its current liabilities. This is low, but is likely adequate, assuming Transport could match its payments to at least some of its suppliers roughly to the time it takes to collect from its own customers.

INTEREST COVERAGE RATIO

The interest coverage ratio is usually calculated as (profit before interest expense and income tax) divided by net interest expense. Transport's interest coverage ratios, using the net interest expense from Note 6, were:

- 2019: ($413.0 + $143.3 + $218.6)/$218.6 = 3.54 times
- 2018: ($401.3 + $41.6 + $218.7)/$218.7 = 3.03 times.

The result here is what we would expect from the other debt-related ratios: Transport's interest coverage is comfortable, though with its decreased borrowing and the decreased interest that goes with it, it is more comfortable than it was in 2018.

Concluding comments about the ratios calculated

The ratios are summarised in Exhibit 15.7. Each one focuses on a different aspect of performance, and the comparison of each with the previous or other years tells us something, and also invites us to learn more about the company so we can understand what each ratio is indicating. Comments integrating the story told by all the ratios will be made in section 15.8.

EXHIBIT 15.7

SUMMARY OF RATIOS FOR TRANSPORT

	2019	2018
ROE	10.4%	11.0%
ROA	3.9%	4.0%
Profit margin	10.6%	11.0%
Gross margin	Not available	Not available
EPS (reported audited figure)	$2.60	$2.53
Book value per share	$25.09	$23.06
PE (approximate)	15.8 times	14.5 times
Dividend payout	20.0%	20.2%
Total asset turnover	0.37 times	0.37 times
Inventory turnover	Not available	Not available
Debtors turnover	40.7 days	39.5 days
Debt-equity	1.64 times	1.72 times
Long-term debt-equity	0.77 times	0.92 times
Debt to assets	0.62 times	0.63 times
Current ratio	0.77 times	0.76 times
Quick ratio	0.61 times	0.56 times
Interest coverage	3.54 times	3.03 times

HOW'S YOUR UNDERSTANDING?

15C How well did Transport perform in 2019 as compared to 2018?

15D How was Transport's liquidity at the end of 2019? Is that an improvement over 2018?

Overall conclusions from Transport Limited's company analysis

Here are some conclusions to connect the various analyses in the preceding sections to form an overall portrayal of Transport's financial performance and position.

PERFORMANCE

Transport's story is of steady, stable performance, showing a mixture of small improvements and small declines from 2018 to 2019. Return on equity and return on assets declined slightly, while earnings per share rose. The reasons are contained in the slight decline in profit margin, and small growth in both revenues and operating expenses, resulting in little growth in net profit. Transport's price-to-earnings ratio and price-to-book ratio indicate that the stock market sees the company as a solid investment, not a high-flyer. Dividends will be important if share price growth is low.

ACTIVITY (TURNOVER)

The company's asset turnover was relatively slow: it is a large-asset transport company, so that is to be expected. The bulk of its assets are noncurrent. The company's revenues grew slightly faster than its assets, providing a small improvement in the asset turnover from 2018 to 2019. The asset turnover improved, indicating that the pace of growth in profit was slightly higher than that of assets. Receivables collections slowed slightly, which also impacts the asset turnover. Taken together, the activity ratios are further indications that Transport is a mature company that is stable and not rapidly expanding or changing.

FINANCIAL STRUCTURE

Transport was leveraged with 60 per cent more debt than equity. This means that about two-thirds of its assets were provided by creditors and only one-third by owners. The debt-to-equity ratio has been declining since Transport became independent, mainly through the growth of retained profits. Most of its financing was long term, like its assets: the company was following common principles of matching the financing term to the assets being financed.

LIQUIDITY/SOLVENCY

The company had negative working capital (ratio less than 1) in both 2019 and 2018. Despite this situation, Transport is able to meet its current liability obligations by generating cash from operations and by maintaining a balance among cash, accounts receivable and accounts payable. Inventories were not a major part of Transport's working capital, so the quick ratio was only a little weaker than the working capital ratio. Interest coverage was comfortable compared both to profit and (as cash from operations was larger than profit) to cash flow.

OVERALL SUMMARY

Transport in 2019 was a stable company, putting its affairs in order and maintaining a healthy cash flow and slightly improved earnings and returns to shareholders. Long-term debt, and therefore risk, were reduced, helping improve liquidity and so reducing short-term risk. The various ratios and stock market price performance agreed in portraying the company as not extreme in any dimension, positively or negatively, and so being an attractive investment though not a high-flyer. Its market capitalisation and price-to-earnings ratio indicated that investors expect similar performance and moderate growth in the future.

15.8 'What if' effects on ratios

LO6 Below, we will examine three 'what if' (effects) analysis examples. For each, we will ask seven standard questions, just to help you see the extent of the analysis that is possible. We will ask what the effect is on each of the following factors:

		Abbreviation
1	Net profit for the current year	Net profit
2	Income tax liability at the end of the current year	Tax liability
3	Cash from operations for the current year	Operating cash flow
4	Current ratio at the end of the current year	Current ratio
5	Return on equity for the current year	ROE
6	Return on assets (using EBIT) for the current year	ROA
7	Debt-to-equity ratio at the end of the current year	D/E ratio

Here are the three examples (assume a 40 per cent income tax rate for all):

1 Handee Hardware Ltd is considering borrowing $1 million as a short-term loan from the bank.

2 Eastern Mining Ltd proposes to write an unproductive mine down by $25 million.

3 Gibson Ltd decides, for accounting purposes, to depreciate equipment over 10 years instead of over 20 years. There is no change in the tax treatment.

Solution notes: example 1

The effect of Handee Hardware Ltd borrowing $1 million as a short-term loan from the bank on:

- *Net profit:* no effect on current profit (until after the borrowing, when interest begins to accumulate).
- *Tax liability:* no effect on income tax (until after the borrowing, when interest incurred becomes a tax-deductible expense).
- *Operating cash flow:* no effect on operating cash flows.
- *Current ratio:* cash is a current asset and the bank loan is a current liability, and both are increased, so there is no effect on working capital. But to think about effects on the current ratio, consider the following possible situations:

	Current assets		Current liabilities		Current ratio	
	Before	After	Before	After	Before	After
a	6 000 000	7 000 000	3 000 000	4 000 000	2.00	1.75
b	6 000 000	7 000 000	5 000 000	6 000 000	1.20	1.17
c	6 000 000	7 000 000	7 000 000	8 000 000	0.86	0.88
d	6 000 000	7 000 000	9 000 000	10 000 000	0.67	0.70

You can see from these situations that such an event drives the current ratio towards 1: down towards 1 if it were higher, and up towards 1 if it were lower. So, there is no effect on working capital because it is the *difference* between current assets and current liabilities, and the effects on each cancel one another out. But there is an effect on the current ratio, because it is current assets *divided* by current liabilities, and the effects on each depend on the level of the ratio before the change.

- *ROE:* no effect until interest starts to accumulate and any revenues or decreased costs for which the money is used begin. Whether ROE ultimately goes up or down depends on whether the company has borrowed wisely. For example, the money may be used to pay suppliers sooner and get early-payment discounts that are greater than the interest paid to the bank for the money, in which case ROE will go up eventually.
- *ROA:* in this case, total assets increases, and there is no effect on profit until interest starts to accumulate. At this point ROA will decrease.
- *D/E ratio:* this will go up, because the company has more debt and there has been no immediate effect on equity (no effect on profit).

Solution notes: example 2

The effect of Eastern Mining Ltd writing an unproductive mine down by $25 million on:

- *Net profit before tax:* the mine asset cost will be credited, accumulated depreciation will be debited and an expense, loss on mine closure, will be debited. The full effect would be a $25 million reduction on current profit.
- *Tax liability:* probably some reduction in income tax liability. The exact effect depends on resolving the tax deduction uncertainty.
- *Operating cash flow:* no effect on cash or cash from operations.
- *Current ratio:* no effect on working capital or on the current ratio, unless there was a reduction of current income tax liability. In such a case, working capital and the ratio would increase.
- *ROE:* profit would fall; therefore, so would ROE. The write-off would equally reduce profit and equity (retained profit after including the lower profit), so the ratio's fall would be reduced a little by the decline in the denominator as well as the numerator.
- *ROA:* like ROE, this would fall because of the effect on profit.
- *D/E ratio:* this would go up because the company has less equity.

Solution notes: example 3

The effect of Gibson Ltd deciding, for accounting purposes, to depreciate equipment over 10 years instead of over 20 years with no change in tax treatment on:

- *Net profit:* profit would decrease because of the increased amount of depreciation expense.
- *Tax liability:* no impact on tax as tax treatment of depreciation does not change.
- *Operating cash flow:* no impact on cash flow from operations.
- *Current ratio:* as neither current assets nor current liabilities are affected, the current ratio would not be affected.
- *ROE:* both profit and equity (via retained profits) would fall by the same amount. Assuming the ratio is less than 100 per cent, the ratio would fall.
- *ROA:* both profit and total assets (via accumulated depreciation) would decrease by the same amount. Assuming the ratio is less than 100 per cent, the ratio would fall.
- *D/E ratio:* would increase because equity falls because of the drop in retained profits.

HOW'S YOUR UNDERSTANDING?

15E Strapped Ltd, which has $190 000 in current assets and $170 000 in current liabilities, borrows $40 000 from the bank as a long-term loan, repayable in four years. What is the effect of this loan on working capital? On the current ratio? On current net profit?

15F Slipshod Ltd has discovered that it has not estimated enough warranty expenses, because more customers are returning products for repair than had been expected. The company decides to recognise an additional $130 000 in noncurrent warranty liability, and, therefore, in corresponding expenses. The company's income tax rate is 35 per cent. What will this do to the current year's net profit? To cash from operations? To the current ratio?

15.9 Measuring a manager's performance

LO7

Financial statements don't measure a manager's performance without sensitive and informed interpretation, and even then, often not very satisfactorily! For example, if a company follows standard financial accounting methods uncritically, making no attempt to adjust them to fit its own circumstances, the resulting financial statements will provide clear, but sometimes very arbitrary, measures of the performance of the company's management. On the other hand, if the company ignores standard methods entirely, designing its own accounting methods for everything, the resulting financial statements will provide a relevant but hard-to-compare measure of management performance. Most companies are in between these extremes, which means that there are some arbitrary aspects of financial statements and some difficulties in comparing them.

It is hard to determine how much a company's performance is really due to management and how much depends on other factors, such as economic trends, product price changes, union pressure and even pure luck (good or bad). Also, in most companies, management is a group, so it is difficult to set one manager's performance apart from the group's. The result is that evaluating a manager's performance with financial statements requires great care and knowledge of the company and its industry.

The ratios and other computations used in financial analysis can easily compound the problem. Let's take the example of return on assets. Consider the case of two companies, A and B. Company A has assets of $100 000 and EBIT of $20 000, for a 20 per cent ROA. Looks great. But the manager is not looking into the future much, so is not keeping the company's assets or maintenance up to date.

Company B is exactly the same, except that the manager is very aware of the need to stay competitive and look after the assets, and has therefore spent $10 000 on new assets and $2000 on an improved maintenance program. As a result, B's assets are $110 000 and its EBIT is $18 000, for a 16 per cent ROA. Consequently, A looks better than B: ROA is reduced both by a smaller numerator and a larger denominator in the case of B.

You can see that, unless the person doing the financial analysis really understands the situation, the prudent and responsible manager of B will look worse than the neglectful manager of A!

Consider another example of two managers of printing companies. Both of the companies have an EBIT of $100 000. Both companies' only material asset is a printing machine that cost $1 million, and has a life of 10 years. Company C bought the machine two years ago (accumulated depreciation $200 000; book value $800 000) and company D bought its machine four years ago (accumulated depreciation $400 000; book value $600 000). In this simplified situation, company C would have an ROA of 12.5 per cent ($100 000/$800 000), while company D would have an ROA of 16.67 per cent ($100 000/$600 000). Again, care needs to be taken in interpreting the figures and evaluating managers' performances based on ratios.

FOR YOUR INTEREST

Here is some of the evidence about financial statement analysis produced by accounting research:

- If the financial statements have new or unexpected information (as would those of most private and/or small companies), analysis of them is valuable in order to interpret the results.
- Ratios computed from financial statements have some value in predicting company failure or other financial problems. Research indicates that, for some companies, financial problems can be predicted several years in advance using accounting ratios.
- Financial analysis is an important activity in the monitoring of lending agreements, management bonus plans and other contractual arrangements. Many such agreements involve analysis because they specify that deterioration of some ratios (such as debt-to-equity) will trigger penalties or even the termination of the agreement, or because ratios are used in computing bonuses or other payments.
- Even though annual reports come out rather a long time after the fiscal year-end, there is enough reaction by stock markets to them to indicate that analysis of the reports still has something to say to market traders.
- People cannot cope with masses of disaggregated data: it takes too long to comprehend and requires too much special expertise. Therefore, summarising techniques such as financial analysis play a major role in users' decision-making.
- Analysts' forecasts of earnings, based partly on financial statement data, do help to predict companies' future earnings performance. The analysts often can anticipate significant changes in earnings because they are following companies closely, so market prices regularly change before the new financial statements are released.
- Risk and return are generally related. Investments with a higher potential return often are riskier, and those with a low risk usually have a low potential return. Different investors have different risk preferences: some prefer to hold risky shares that may generate high returns (or large losses!), while others prefer more secure investments. Financial statement analysis helps to assess risk, and thus helps investors choose the shares that seem appropriate to their risk preferences.
- Financial statement analysis is useful to corroborate what people already believe about a company's performance, position or risk. Even if such analysis turns up little that is 'new', it acts as a check on the other flows of information about companies, because the validity of that information can be verified later when the financial statements come out. Also, sometimes financial statement analysis does turn up new information, allowing people to fine-tune their expectations about future performance.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Integrating ratios

TMC Ltd, a large producer of telecommunications equipment, retails its products through suburban outlets. Shown below are the calculations of some of its key ratios for 2019 and 2018.

	2019	2018
Return on shareholders' equity	13%	12%
Return on total assets (ROA)	8%	9%
Profit margin	20%	18%
Asset turnover	0.40 times	0.50 times
Days in inventory	72 days	55 days
Days in debtors	42 days	42 days
Current ratio	1.6 times	1.5 times
Quick ratio	0.7 times	1.1 times
Debt-to-equity ratio	1.4 times	1.0 times

1 Comment on TMC's profitability, asset management, liquidity and financial structure.
2 Why could ROE and ROA move in different directions?
3 What caused the fall in ROA?
4 What caused the fall in asset turnover?
5 What caused the increase in the current ratio?

PRACTICE PROBLEM B

Ratios to measure different kinds of performance

1 Many financial performance measures are ratios of some return over some investment base. Why is such a concept of performance important in business?
2 With your answer to question 1 in mind, how might you measure the performance of each of the following investments owned by Ann Mandel?
   a Her $1200 in a savings account at Solid Bank.
   b Her investment of $15 000 in a little consulting business she runs.
   c Her sports car.

PRACTICE PROBLEM C

Answer questions using ratio analysis

Company A is 100 per cent owned by Mr A. The summary of Company A's financial statement information is as follows:

BALANCE SHEET AS AT 30 SEPTEMBER 2019

	$
Total assets	80 000
Total liabilities	35 000
Total shareholders' equity	45 000
Total liabilities and shareholders' equity	80 000

INCOME STATEMENT FOR THE YEAR ENDED 30 SEPTEMBER 2019

	$	$
Revenue		30 000
Expenses		
Interest	2 000	
General and operating expenses	19 000	
Income tax (33%)	3 000	24 000
Net profit for the year		6 000
Note showing changes in retained profits for the year ended 30 September 2019		
	$	$
Balance at beginning of the year		17 000
Net profit for the year		6 000
Balance at end of year		23 000

1 Calculate Company A's return on equity for 2019.

2 Company A is considering borrowing $50 000 for additional assets that would earn the company the same return on assets it has historically earned, according to the financial statement information above. The cost of borrowing this money is 6 per cent. Should the company borrow the money? (Assume there are no alternative sources of funding.) Show all calculations.

3 Place yourself in the role of the local bank manager. Mr A has approached you to lend the company the required $50 000 mentioned above. (Detailed financial statement information has already been presented to you.) What additional information would you require, if any? What financial statement ratios, in addition to those calculated in previous parts of this problem, would be useful in aiding your decision? Do not calculate the ratios; just mention or describe them.

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts and are then followed by a set of problems.

DISCUSSION QUESTIONS

1 What is the purpose of financial statement analysis?

2 What is a common size statement? When is its use most appropriate?

3 What information should you gather about a company before you start calculating ratios?

4 What ratios would you calculate to evaluate a company's profitability?

5 What ratios would you calculate to evaluate a company's activity or turnover?

6 What ratios would you calculate to evaluate a company's liquidity?

7 What ratios would you calculate to evaluate a company's financial structure?

8 Explain the benefits of the DuPont system of ratio analysis.

9 Outline some of the main limitations of ratio analysis.

10 List the advantages and disadvantages you can see in using ratio analysis of financial statements as a way of evaluating management's performance. For the disadvantages, try to think of a way around each problem you identify.

11 Use non-technical language to answer the following:
   a What is financial leverage?
   b Why is such leverage risky?
   c How does the DuPont formula incorporate leverage?
12 In this chapter you have seen several types of ratios used to analyse financial statements and information.
   a Select two types of ratios and describe what information is conveyed by each.
   b Calculate ratios of these types for any company you are interested in.
13 A senior member of a large public company's management complained: 'Accountants' financial analyses don't seem very useful to me. The analyses don't reveal the business management factors that are important to my company's success. They are biased towards the past rather than the future. And, anyway, the share market is way ahead of the accountants in judging the company's performance.' Comment on the manager's complaint.
14 Why does changing depreciation method (i.e. changing the depreciation numbers in the financial statements) change the debt-to-equity ratio?
15 Briefly explain the differences in profit margin, asset turnover, accounts receivable turnover, inventory turnover and any other important differences between a retailer of fast-moving consumer goods (such as a food retailer), a manufacturer of consumer durables (such as whitegoods) and a manufacturer or distributor of tobacco products.
16 Explain how the following are possible:
   a Kylie Limited has a high current ratio, but has difficulty paying its bills.
   b Jason Limited has a high quick ratio, but has difficulty paying its bills.
   c Craig Limited has a low quick ratio, but no difficulty paying its bills.

PROBLEMS

PROBLEM 15.1

Common size income statements

Prepare a common size income statement for Woolworths Limited for 2017 and 2016. You will need to use the data in the Consolidated Income Statement for Woolworths Limited. Comment on any significant changes you notice.

PROBLEM 15.2

Impact of transactions on ratios

Analyse the effect of each of the following transactions on the current ratio, quick ratio, debt-to-equity ratio and earnings per share. Assume that the current ratio, quick ratio and debt-to-equity ratio are each greater than 1, and that earnings per share is positive. Determine if the ratio increases, decreases or is unchanged. Consider each transaction independently of all the other transactions.

1 Repaid short-term loans payable of $51 000.
2 Purchased inventory of $48 000 on cash.
3 Made repayments of $78 000 on the long-term loan.
4 Declared, but did not pay, a $31 000 cash dividend on shares.
5 Borrowed an additional $56 000 on the long-term loan.
6 Sold short-term investments recorded in the balance sheet at $30 000 for $28 000.
7 Issued 140 000 shares at the beginning of the financial period for cash of $168 000.
8 Received $6000 owing in cash from a customer.

PROBLEM 15.3

Impact of transactions on ratios

Leo Limited is consistently profitable. Leo's normal financial statement relationships are as follows:

Current ratio	2.6 times
Inventory turnover	3.2 times
Debt-to-assets ratio	0.7 times

Additional information:
1 Leo declared and paid a cash dividend.
2 Customers returned invoiced goods for which they had not paid.
3 Accounts payable were paid on the last day of the financial year.
4 Leo decided to revalue land it had purchased many years previously.
5 Early in the financial year, Leo increased the selling price of one of its products that had a demand in excess of capacity. The number of units sold last year and this year was identical.

For each of the above transactions or events, determine the effect on each of the ratios in the table above (increase, decrease, no effect).

PROBLEM 15.4

Calculation and interpretation of ratios

Data for White Star Limited is as follows:

WHITE STAR LIMITED
BALANCE SHEET AS AT 30 JUNE

	2019 $m	2018 $m
Current assets		
Cash	50	330
Receivables	540	310
Inventories	450	260
Total current assets	1 040	900
Noncurrent assets		
Property, plant and equipment	160	140
Total noncurrent assets	160	140
Total assets	1 200	1 040
Current liabilities		
Creditors and borrowings	630	510
Provisions	15	10
Total current liabilities	645	520
Noncurrent liabilities		
Creditors and borrowings	245	195
Provisions	10	15
Total noncurrent liabilities	255	210
Total liabilities	900	730
Net assets	300	310
Shareholders' equity		
Share capital ($1 ordinary shares)	80	80
Reserves	35	35
Retained profits	185	195
Total shareholders' equity	300	310

Additional information:

Net operating profit after tax is $25 million (2018: $38 million).

1 Use the information above to calculate for 2019 and 2018:
   a working capital
   b current ratio
   c quick ratio
   d debt-to-equity ratio
   e return on equity ratio
   f earnings per share ratio.
2 Identify two warning signals that could have negative implications with respect to the company's ability to generate cash flows to meet its future needs. In each case, explain why the signal you have identified could reflect a cash flow problem.
3 At the annual general meeting of White Star, the managing director, Ms Rose Dawson, made the following statement: 'Recently a number of articles in the financial press have questioned the financial position of our company. This criticism is totally unjustified. Net profit was $25 million and total assets have increased by $160 million. These results show that 2019 was a very successful year for White Star.' Comment on Ms Dawson's statement.

PROBLEM 15.5

Impact of transactions on ratios

In February 2018, newspaper reports referred to a retailer's balance sheet including intangible assets such as brandnames and goodwill of almost $1 billion as being much higher than market value. If the value of these intangibles was written down:

1 What would be the effect on net profit?
2 What would be the effect on total assets?
3 What key ratios would be affected?

PROBLEM 15.6

Examine components of the return on assets ratio

Information taken from the recent annual reports of two retail companies appears below (amounts in millions). One of these companies is a discount chain store and the other is a specialty retailer of fashion clothes.

	Company X $m	Company Y $m
Sales	4 069	4 130
Interest expense	42	18
Net profit before tax	245	168
Total assets	2 061	1 149

Which company is likely to be the discount chain store? Briefly explain your answer.

PROBLEM 15.7

Calculate ratios and comment on performance

JRP Ltd is a mail-order business selling a variety of consumer products. At the end of 2018, its major shareholder instigated changes in management in order to improve performance. The financial statements for the years ending 30 June 2018 and 2019 are shown below.

INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE

	2019 $000	2018 $000
Sales	9 000	8 125
Less: COGS	6 300	5 687
Gross profit	2 700	2 438
Less: Expenses:		
Selling and administration	1 260	1 382
Interest charges	400	256
Profit before tax	1 040	800
Less: Tax	140	150
Net profit after tax	900	650

BALANCE SHEET AS AT 30 JUNE

	2019 $000	2018 $000
Current assets		
Inventory	2 400	750
Accounts receivable	1 650	1 500
Total current assets	4 050	2 250
Noncurrent assets (at net book value)		
Land and buildings	3 750	3 015
Machinery	1 200	1 010
Total assets	9 000	6 275
Current liabilities		
Bank overdraft	800	275
Accounts payable	1 700	600
Provision for employee entitlements	200	250
Total current liabilities	2 700	1 125
Noncurrent liabilities		
Bonds	3 950	2 000
Shareholders' equity		
Share capital	1 000	1 000
Retained profits	1 350	2 150
Total shareholders' equity	2 350	3 150
Total shareholders' equity and liabilities	9 000	6 275

1 Calculate the following ratios:
   a return on assets (using EBIT)
   b asset turnover

c profit margin
d return on shareholders' equity
e current
f quick
g inventory turnover
h days in inventory
i debtors turnover
j days in debtors
k debt-to-equity
l interest coverage.

2 Comment on the company's performance, indicating any changes you would suggest.

PROBLEM 15.8

Use of ratios

Comparative balance sheets and income statements for E-Worths Limited are given below.

E-WORTHS LIMITED
BALANCE SHEETS AS AT 30 JUNE

	2019 $000	2018 $000
Current assets		
Cash	41	43
Receivables	79	74
Inventories	210	203
Other	4	5
Total current assets	334	325
Noncurrent assets		
Property, plant and equipment	160	141
Total assets	494	466
Current liabilities		
Creditors and borrowings	77	64
Provisions	40	30
Total current liabilities	117	94
Noncurrent liabilities		
Loan	140	140
Total liabilities	257	234
Net assets	237	232
Shareholders' equity		
Share capital	90	90
Reserves	115	115
Retained profits	32	27
Total shareholders' equity	237	232

E-WORTHS LIMITED
INCOME STATEMENT FOR THE YEAR ENDED 30 JUNE

	2019 $000	2018 $000
Sales	790	773
Less: COGS	(494)	(456)
Gross profit	296	317
Less: Administrative and selling expenses	(220)	(241)
Less: Interest expense	(15)	(14)
Operating profit before income tax	61	62
Income tax expense	(30)	(32)
Operating profit after income tax	31	30

During the year ended 30 June 2019, E-Worths Limited declared and paid dividends of $26 000. On 30 June 2019, the market price per share was $2.70 and 90 000 shares were on issue.

1. Assume you are a banker evaluating a request for a short-term loan from E-Worths Limited. The company would like to borrow on 1 July 2019 and repay on 31 December 2019. Name and calculate three 2019 ratios that you would use to determine the likelihood that the company will be able to make the loan repayment when it falls due.
2. Assume you are a potential investor evaluating a share purchase in E-Worths Limited. You are looking for an investment that will provide a steady stream of dividend income over the years. Name and calculate three 2019 ratios that you would use to make your decision about whether to buy shares in E-Worths Limited.
3. List and briefly explain three disadvantages of basing your decisions solely on ratio analysis.
4. List other tools that analysts and other users of financial statements might use to overcome the limitations associated with the use of ratios alone.

PROBLEM 15.9

Explain reasons for changes in ratios

The following is a summary of the information in the financial statements of ABC Ltd for the years 2018 and 2019.

	2019 $000	2018 $000
Current assets	50	100
Noncurrent assets	350	200
Total assets	400	300
Current liabilities	50	50
Noncurrent liabilities	210	150
Shareholders' equity	140	100
Total liabilities and shareholders' equity	400	300
Sales	800	750
Expenses	752	720
Net profit (before interest and tax)	48	30
Interest	13	10
Tax payable	14	8
Net profit after tax	21	12

The manager of ABC Ltd has given the following information relating to the firm:

	2019 %	2018 %
Return on assets (using EBIT)	12	10
Current ratio	100	200
Quick asset ratio	100	100
Debt-to-assets ratio	65	66.7
During 2019, land that cost $50 000 was revalued to $90 000		

1 Suggest possible reasons for the change in ROA.
2 Comment on the changes in liquidity during the period.
3 What changes have taken place in the firm's long-term financial position during the period?
4 Why does a great deal of care need to be taken in the use and interpretation of financial ratios?

PROBLEM 15.10

Effect of transactions on ROA and ROE

State whether the following transactions would affect ROA (using EBIT; presently 7 per cent), ROE (presently 11 per cent), both or neither:

1 issue bonus shares
2 asset revaluation upwards
3 increase in interest expense
4 issue ordinary shares to pay off a loan
5 increase in depreciation expenses
6 purchase new equipment for cash (ignore depreciation effects)
7 increase the provision for long service leave
8 purchase equipment on credit (ignore depreciation).

PROBLEM 15.11

Effect of transactions on ratios

Fad Foods Ltd completed a series of transactions, which are listed below. Before the transactions, both the current and quick asset ratios were greater than 1. The cash account has a debit balance.

Indicate the effect of each of the transactions listed below on the ratio listed opposite it. For each transaction, state whether the ratio would increase, decrease or have no effect. Treat each transaction independently.

	Transaction	Ratio
1	Redeemed debentures by issuing ordinary shares	Return on equity
2	Purchased inventory on credit	Quick ratio
3	Sold inventory for cash with a 40 per cent mark-up on cost	Current ratio
4	Issued additional ordinary shares for cash	Debt-to-equity ratio
5	Collected an account receivable balance	Debtors turnover
6	Paid accounts payable	Return on assets
7	Paid accounts payable	Profit margin

PROBLEM 15.12

Effect of transactions on ratios

Indicate the effects (increase, decrease or no effect) of each of the following independent transactions on:

1 the rate of return on shareholders' equity
2 the current ratio

3 the debt-to-equity ratio.
State any necessary assumptions.
   a Inventory costing $410 000 is purchased on account.
   b Inventory costing $240 000 is sold on account for $300 000.
   c Collections from customers on accounts receivable total $100 000.
   d Payments to suppliers on accounts payable total $160 000.
   e A machine costing $80 000, on which $60 000 of depreciation was charged, is sold for $20 000.
   f Dividends of $80 000 are declared. The dividends will be paid during the next accounting period.
   g Ordinary shares are issued for $175 000.
   h A machine costing $60 000 is acquired. Cash of $10 000 is given, and a note for $50 000 payable five years from now is signed for the balance of purchase price.

PROBLEM 15.13

Effect of transactions on ratios

Management is interested in what would have been the impact on net profit before tax for the year ended 30 June 2019 and cash flow from operations for the year ended 30 June 2019 and the current ratio at 30 June 2019 (presently 2:1) if each of the following transactions had occurred in June 2019. To answer this question for each of the eight transactions below, state 'increase', 'decrease' or 'N/E' (no effect).

1. Purchase inventory on credit.
2. Sell goods on credit with 50 per cent mark-up on cost.
3. Recognise accrued revenue of $18 000.
4. Capitalise research and development costs that had been treated as an expense.
5. Sell equipment with a book value of $50 000 (cost $180 000) for $160 000.
6. Increase the allowance for doubtful debts by $20 000.
7. Receive a deposit of $10 000 on a job that will be commenced in the next financial year.
8. Depreciate equipment over a shorter period.

PROBLEM 15.14

Accounting policy choice

Swaffle Ltd, in business for only a year, has capitalised $50 000 in software development costs. The controller argues that the costs should be expensed instead. Assume that this change in policy will influence the company's tax liability. The company has a marginal tax rate of 30 per cent of profits before tax. How would the controller's proposal impact on the following ratios?

1. Return on equity (presently 20 per cent).
2. Current ratio (presently 2:1).

PROBLEM 15.15

Financial statement analysis

The following ratios describe the performance of Ratio Ltd for 2018 and 2019:

Ratio	Value 2018	Value 2019
Debt-to-equity ratio	1.36 times	1.86 times
Inventory turnover	6.70 times	8.00 times
Quick ratio	0.91 times	0.70 times
Gross margin	63.2%	65.0%
Interest coverage	2.8 times	2.00 times

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Current ratio	1.89 times	1.29 times
Receivables turnover	7.3 times	7.5 times
Days inventory on hand	54.5 days	45.6 days
Return on assets	13.24%	14.40%
Return on equity	38.43%	34.97%

1 Classify these ratios into those relating to:
   a profitability
   b liquidity and solvency
   c financing
   d activity.
2 Based on the ratio values supplied, comment on the company's performance in 2019 in each of the following categories:
   a profitability
   b liquidity and solvency
   c financing
   d activity.

   In addition, note the limitations of conclusions drawn from the provided information, and indicate what other information would be helpful in assessing the company's performance.
3 Explain the following:
   a Why do the return on assets and return on equity ratios differ?
   b Why would the return on assets ratio be calculated if you had already calculated the return on equity ratio? (You may find it helpful to consider how these ratios are calculated.)
4 Consider the inventory turnover ratio and the days inventory on hand ratio:
   a What information do these ratios provide?
   b From the viewpoint of management, what are the limitations relating to these ratios?
5 During 2019, the chief financial officer (CFO) of Ratio Ltd employed an independent valuer to assess the current value of the land and buildings owned by the company. The valuer had advised the CFO that the value of the land and buildings had increased by $50 000 (10 per cent). Assume that this increased value is reflected in the ratios provided above. Explain how this accounting policy choice would have affected each of the ratios.

PROBLEM 15.16

Financial statement analysis

The inventory turnover of A Ltd was 3.79 in 2018 and the days inventory on hand 2019 was 140.6.

1 Explain the purpose of calculating the inventory turnover ratio.
2 Explain what an inventory turnover ratio of 3.79 means.
3 Is the 2019 inventory turnover ratio for A Ltd an improvement on the 2018 inventory turnover ratio?
4 What factors should management consider when interpreting these figures?

PROBLEM 15.17

Use statement analysis to evaluate a general manager's claims

The general manager of a medium-sized manufacturing company wants to renew the company's operating loan. In discussions with the bank's lending officer, the general manager says: 'As the accompanying financial statements show, our working capital position has improved during the past year, and we have managed to reduce operating expenses significantly.'

The partial financial statements are shown below.

TITAN MANUFACTURING LTD
PARTIAL BALANCE SHEET AS AT 31 DECEMBER 2019 AND 2018

	2019 $	2018 $
Current assets		
Cash	50 000	200 000
Accounts receivable	250 000	100 000
Inventories	500 000	400 000
Total current assets	800 000	700 000
Current liabilities		
Accounts payable	250 000	200 000
Operating loan	100 000	100 000
Total current liabilities	350 000	300 000

TITAN MANUFACTURING LTD
INCOME STATEMENT FOR THE YEARS ENDED 31 DECEMBER 2019 AND 2018

	2019 $	2018 $
Sales	1 200 000	1 500 000
Less COGS	780 000	900 000
Gross profit	420 000	600 000
Operating expenses	350 000	400 000
Profit before taxes	70 000	200 000
Income taxes	14 000	40 000
Net profit	56 000	160 000

1 Evaluate the general manager's comments. Incorporate appropriate ratio analysis in your discussion.
2 What additional financial information (if any) would you request from the general manager? Why?

PROBLEM 15.18

Performance evaluation using ratios

International Business Computers (IBC) has enjoyed modest success in penetrating the personal computer market since it began operations a few years ago. A new computer line introduced recently has been received well by the general public. However, the general manager, who is well versed in electronics but not in accounting, is worried about the future of the company.

The company's operating loan is at its limit and more cash is needed to continue operations. The bank wants more information before it extends the company's credit limit. The general manager has asked you, as financial controller, to do a preliminary evaluation of the company's performance, using appropriate financial statement analysis, and to recommend possible courses of action for the company. The general manager particularly wants to know how the company can obtain additional cash. Use the summary financial information shown below to do your evaluation and make your recommendations.

INTERNATIONAL BUSINESS COMPUTERS
BALANCE SHEET AS AT 31 DECEMBER

	2019 $000	2018 $000	2017 $000
Current assets			
Cash	19	24	50
Marketable securities	37	37	37
Accounts receivable (trade)	544	420	257
Inventory	833	503	361
Total current assets	1 433	984	705
Noncurrent assets			
Land	200	200	100
Buildings	350	350	200
Equipment	950	950	700
	1 500	1 500	1 000
Less: Accumulated depreciation: buildings and equipment	(447)	(372)	(288)
Net noncurrent assets	1 053	1 128	712
Total assets	2 486	2 112	1 417
Current liabilities			
Bank loan	825	570	–
Accounts payable (trade)	300	215	144
Other liabilities	82	80	75
Income tax payable	48	52	50
Total current liabilities	1 255	917	269
Shareholders' equity			
Share capital	1 000	1 000	1 000
Retained profits	231	195	148
Total shareholders' equity	1 231	1 195	1 148
Total liabilities and shareholders' equity	2 486	2 112	1 417

INTERNATIONAL BUSINESS COMPUTERS
INCOME STATEMENT FOR THE YEARS ENDED 31 DECEMBER

	2019 $000	2018 $000	2017 $000
Sales	3 200	2 800	2 340
COGS	2 500	2 150	1 800
Gross profit	700	650	540
Expenses	584	533	428
Net profit	116	117	112

Other related information included in total expenses:

	2019 $000	2018 $000	2017 $000
Interest expense	89	61	–
Income tax expense	95	102	97

INTERNATIONAL BUSINESS COMPUTERS
NOTE SHOWING CHANGES IN RETAINED PROFITS FOR THE YEARS ENDED 31 DECEMBER

	2019 $000	2018 $000	2017 $000
Opening retained profits	195	148	96
Add: Net profit	116	117	112
Less: Dividends	80	70	60
Closing retained profits	231	195	148

PROBLEM 15.19

Inventory valuation, depreciation and ratios

Jeans F' All and Jeans 'R' Us are very similar companies in size and operation. Jeans F' All uses FIFO and the straight-line depreciation method and Jeans 'R' Us uses LIFO and diminishing value depreciation. Identify which company will report the higher number for each of the following ratios:

1. current ratio
2. inventory turnover
3. profit margin
4. return on assets.

State any assumptions you need to make in answering this question.

PROBLEM 15.20

Industry-specific ratios

Available seat kilometres is a common measure of productivity in the airline industry. Cost to income ratios are a key measure of comparison across the banking industry. Sales per staff member of square metre of available space are used to compare performance in retail. Patient to staff ratios are included in state government enterprise bargaining agreements as part of conditions of employment for nurses.

1. Choose an industry and research (or design) some ratios which could be used to measure and compare performance in that industry.
2. Why do some industries use ratios outside those we have covered in this chapter to measure and assess organisational performance?

CASES

CASE 15A Woolworths' and Wesfarmers' ratios

In Chapter 15, we have considered Woolworths Limited in detail. Woolworths has a reputation of being a defensive stock with better than average profit growth and steadily increasing returns to investors. The supermarket retail industry in Australia is dominated by Woolworths and its key competitor, Coles Supermarkets (whose parent company until recently was Wesfarmers Limited). In the last few years Coles Supermarkets has emerged as a reinvigorated competitor to Woolworths, with investment in new stores and a strong branding campaign (you may be familiar with the 'Down Down' jingle).

1. Obtain the Wesfarmers annual report for 2017. Read some background about Wesfarmers (the managing director's report is a good place to start) and identify the operating divisions of Wesfarmers. How are they similar to Woolworths' and how are they different from Woolworths'?
2. Find the income statement and balance sheet. Using this information, calculate the following ratios: ROE, ROA, alternative ROA, profit margin, alternative profit margin and gross profit.
3. Comment on profitability for Wesfarmers.
4. Use the DuPont formula to explain the difference in ROA between the two companies.

CASE 15B Financial statement analysis

As a senior investment analyst, you have been analysing financial results of CRetail Ltd for the last few years. The following table comprises a summary of the financial results for CRetail Ltd.

CRETAIL

	2019	2018	2017
Income statement			
Sales	34 212.0	33 018.0	32 266.8
Other income	91.8	71.9	0.0
COGS	(26 160.8)	(25 305.3)	(24 059.5)
Gross profit	8 143.0	7 784.6	8 207.3
EBIT	850.9	1 027.2	888.1
Interest expense	(98.9)	(55.2)	(13.5)
NPBT	752.0	972.0	874.6
Tax expense	(215.6)	(285.9)	(258.1)
NPAT continuing operations	536.4	686.1	616.5
Profit from discontinued operations	627.2	(48.2)	0.0
NPAT attributable to shareholders	1 163.6	637.9	616.5
Pro forma NPAT	786.6	692.0	576.0
Sales growth	3.62%	2.33%	19.43%
Gross profit growth	4.60%	25.15%	10.94%
Gross margin	23.53%	23.36%	25.44%
Net profit margin	1.57%	2.08%	1.91%
DuPont analysis			
Net profit margin	1.57%	2.08%	1.91%
Asset turnover	3.75 times	3.58 times	3.57 times
Leverage	2.54 times	2.70 times	2.21 times
ROE	14.91%	20.09%	15.10%

1. Comment on the sales growth of CRetail Ltd for the last three years. Discuss any issues of concern.
2. Consider the gross profit growth and gross margin for CRetail Ltd in 2018. Discuss any issues of concern.
3. If you were part of the CRetail management in 2019 facing a takeover offer, how would you persuade shareholders to reject the takeover offer and continue to give you – the management – the chance to improve the company's performance? You may wish to refer to the DuPont analysis in your answer.

CASE 15C Financial statement analysis

BigBrewery is a large Australian beer brewing company. It sells to wholesalers and commercial outlets, which then deal directly with BigBrewery's target customers. BigBrewery's iconic beers are also exported to New Zealand, the United Kingdom and the United States. BigBrewery manufactures in various offshore locations and, as a result, a significant proportion of BigBrewery's costs of production are incurred in US dollars.

BIGBREWERY LIMITED
INCOME STATEMENT FOR YEAR ENDED 30 JUNE 2019

	Consolidated	
	2019 $000	**2018 $000**
Revenue from sales of goods	36 480	47 259
Other revenue	6 534	12 601
Total revenue	43 014	59 860
COGS	(23 656)	(38 577)
Other expenses from ordinary activities	(5 483)	(8 718)
Earnings before borrowing costs, tax, depreciation and amortisation	13 875	12 565
Depreciation and amortisation expenses	(2 890)	(3 415)
Earnings before borrowing costs and tax	10 985	9 150
Borrowing costs	(3 255)	(3 165)
Profit from ordinary activities before income tax	7 730	5 985
Income tax benefit/(expense) relating to ordinary activities	(1 305)	(2 233)
Profit from ordinary activities after related income tax	6 425	3 752
Net profit attributable to members of the parent entity	6 425	3 752
Basic earnings per share (cents)	8.4	6.8
Diluted earnings per share (cents)	8.0	6.7

BIGBREWERY LIMITED
BALANCE SHEET AS AT 30 JUNE 2019

		Consolidated	
	Note	**2019 $000**	**2018 $000**
Current assets			
Cash		3 804	73
Receivables	1	13 758	22 107
Inventories	2	61 467	41 659
Other assets		535	691
Total current assets		79 564	64 530
Noncurrent assets			
Other financial assets		2 800	6 143
Property, plant and equipment	3	79 176	66 620
Intangible assets		54 627	61 229
Other assets		494	–
Total noncurrent assets		137 097	133 992
Total assets		216 661	198 522
Current liabilities			
Payables		28 042	26 513
Interest-bearing liabilities		23 846	31 608
Current tax liabilities		73	1 899
Provisions		1 828	2 015
Total current liabilities		53 789	62 035

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Noncurrent liabilities			
Interest-bearing liabilities		80 898	84 300
Deferred tax liabilities		3 720	623
Provisions		474	1 245
Total noncurrent liabilities		85 092	86 168
Total liabilities		138 881	148 203
Net assets		77 780	50 319
Equity			
Contributed equity	4	60 950	38 886
Reserves		3 932	2 200
Retained profits		12 898	9 233
Total equity		77 780	50 319

The balance sheets are to be read in conjunction with the notes to the financial statements.

BIGBREWERY LIMITED
CASH FLOW STATEMENT

	Consolidated	
	2019 $000	**2018 $000**
Cash flows from operating activities		
Cash receipts in the course of operations	89 336	53 265
Cash payments in the course of operations	(89 731)	(49 372)
Interest received	24	23
Borrowing costs paid	(6 418)	(2 712)
Income taxes paid	(58)	(1 239)
Net cash used by operating activities	(6 847)	(35)
Cash flows from investing activities		
Proceeds on disposal of noncurrent assets	11 116	5 714
Payments for controlled entities (net of cash acquired)	(949)	(25 528)
Payments for deferred acquisition cost	(494)	–
Payments for property, plant and equipment	(4 676)	(4 014)
Payments for acquisition of intangibles	(78)	(104)
Net cash from/(used in) investing activities	4 919	(23 932)
Cash flows from financing activities		
Proceeds from issue of shares	20 011	3
Payments for share issue costs	(1 500)	–
Proceeds from/(repayments of) borrowings	(4 700)	29 710
Finance lease and hire purchase payments	(4 454)	(1 898)
Dividends paid	(2 838)	(2 392)
Net cash from financing activities	6 519	25 423
Net increase/(decrease) in cash held	4 591	1 456
Cash at the beginning of the financial year	73	(1 346)
Effects of exchange rate fluctuations on the balances of cash held in foreign currencies	(860)	(37)
Cash at the end of the financial year	3 804	73

BIGBREWERY LIMITED
SELECTED NOTES TO THE ACCOUNTS

	2019 $000	2018 $000	2017 $000
1. RECEIVABLES			
Current			
Trade debtors	27 432	23 119	5 345
Less: Allowance for doubtful trade debtors	(13 829)	(1 135)	(222)
	13 603	21 984	5 123
Other debtors	155	123	102
	13 758	22 107	5 225

	2019	2018	2017
2. INVENTORIES			
Current			
Bulk beer, at cost	50 258	28 027	13 114
Packaged beer, at cost	9 324	12 627	4 815
Packaging materials, at cost	1 815	931	454
Sundry merchandise, at cost	70	74	53
	61 467	41 659	18 436

	2019	2018
3. PROPERTY, PLANT AND EQUIPMENT		
Freehold land		
– At fair value	8 115	4 470
Buildings		
– At fair value	36 511	21 383
Less: Accumulated depreciation	(3 434)	(443)
	33 077	20 940
Plant and equipment, at cost	36 153	35 362
Less: Accumulated depreciation	(8 232)	(5 909)
	27 921	29 453
Leased plant and equipment	8 967	10 193
Less: Accumulated amortisation	(900)	(472)
	8 067	9 721
Capital work-in-progress	1 996	2 036
Total property, plant and equipment		
Net book value	79 176	66 620

	2019	2018	2017
4. CONTRIBUTED EQUITY			
Number of shares	92 000 000	55 000 000	55 000 000

37 000 000 shares were issued on 1 December 2018.

The market price of shares was $0.95 on 30 June 2019 ($0.98 on 30 June 2018).

5. DIVIDENDS DECLARED

During the year, dividends of 3 cents per share were declared (2018: 4 cents per share)

1 Calculate ratios for BigBrewery Limited for 2018 and 2019, using Exhibit 15.1 as a guide. Be sure to include appropriate units.
2 Comment on the financial performance of BigBrewery in 2019 (relative to 2018) with reference to the above ratio calculations. You may wish to further research the performance of the brewing industry to enhance your answer.

CASE 15D Assessing public sector performance

Traditional measures of assessing financial performance and financial position in the private sector are often not relevant for assessing the performance of public sector entities. In the private sector, operating performance is concerned with profitability, and financial position is concerned with liquidity, solvency and asset management. In the public sector, some of these issues are not always relevant:

- Profit is not an objective of many budget-dependent departments, whose aim is to deliver goods or services consistent with government policy. As a result, performance needs to be measured by a wider range of criteria.
- Information about financial structure is less relevant, because the ongoing viability of budget-dependent bodies is determined by the government (via the will of Parliament).
- Liquidity issues become less important, because creditors know they have a claim against the government as a whole.
- Liquidity and solvency become less important from a lending perspective, because the agencies generally do not have the ability to borrow in their own right.

Given the above differences, it has become necessary for public sector entities to develop new or modified ratios compared to those used in the private sector. Develop some ratios which could be used to evaluate performance in the public sector. (You may wish to consider the relationship between costs, physical output and changes in efficiency.)

HOW'S YOUR UNDERSTANDING SOLUTIONS

15A Hint: you should assess Woolworths' performance by examining changes for each group of ratios as a basis for forming your overall conclusion.

15B Woolworths should compare its financial performance with companies that operate in the same industry; for example, Coles would be a local example. You may also consider Woolworths' international peers.

15C Hint: you should assess Transport's performance by examining changes for each group of ratios as a basis for forming your overall conclusion. Check your answer with the section titled 'Concluding comments about the ratios calculated'.

15D The company's liquidity seemed to improve slightly at the end of 2019, as demonstrated by increases in the current ratio, the quick ratio and the interest coverage ratio.

15E Up $40 000; up from 1.12 to 1.35; none immediately.

15F Down by $130 000 × (1 − 0.35), or $84 500; no effect; no effect because no current assets or liabilities are involved.

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1 a *Profitability*: ROE has increased from 12 per cent to 13 per cent while the return on assets has fallen from 9 per cent to 8 per cent. As shown in part 3 the fall in ROA is due to the fall in asset turnover.

b *Asset management*: the average time to collect debtors has stayed constant. However, the days in inventory has increased from 55 days to 72 days, meaning that, on average, it is taking much longer to sell inventory. These extra days need to be financed by the company. The reasons for the build-up in

inventory should be investigated (e.g. stocking up for some large orders, as opposed to lack of demand, for the product, require very different actions).

c *Liquidity*: the current ratio has increased (mainly due to the build-up in inventory, see above) while the quick ratio has dropped below 1 to 0.7 indicating the company may have problems paying their bills in the short term.

d *Financial structure*: the level of gearing has increased substantially from 1 to 1.4. The ability of the company to pay its interest bill needs to be considered, particularly given the decrease in profitability as indicated by the lower ROA. It would be useful to calculate the interest cover ratio.

2 While ROA has decreased, ROE has increased because of the increase in gearing. Provided the extra funds borrowed earn a return higher than the cost of the debt, shareholders will benefit and the ROE will increase.

3 You can see from the numbers that ROA = Profit Margin × Asset Turnover (e.g. 20 × 0.4 per cent = 8 per cent for 2016). While the profit margin has increased from 18 per cent to 20 per cent, asset turnover has decreased from 0.50 to 0.40, thus overall ROA has decreased.

4 One likely reason for the fall in asset turnover is the fall in inventory turnover.

5 The current ratio was increased because of the build-up in inventory. This can be seen because the quick ratio (which is the same as the current ratio except it excludes inventory) has dropped but the current ratio has increased.

PRACTICE PROBLEM B

1 Such a concept of performance relates the return to the investment required to earn it, so enabling the relative return to be calculated. This is important because returns do require investment. People usually don't make investments without expecting a return, and the sizes of each have to be related to each other in order to evaluate the quality of the result. A $1000 return would be great if the investment required was $2000 (a ratio of 50 per cent) but not so great if the investment were $200 000 (only 0.5 per cent).

2 a The interest earned could be compared to the $1200 required to earn it.

b The consulting earnings could be compared to the $15 000 invested to earn them.

c This is harder because the returns are probably non-financial, such as the fun of driving a sports car, and so are not readily comparable to the car's cost – however, this sort of ratio is implicit in many buying decisions, in which we ask ourselves if the benefits we will obtain are worth the cost, and we may well choose a cheaper car if the feeling of wind in our hair isn't all that important relative to what we have to pay for a convertible.

PRACTICE PROBLEM C

1 Return on equity = $6000 ÷ $45 000 = 0.133

2 If using the alternative ROA ratio, the assets financed would earn 13.75 per cent [(6000 + 2000 + 3000)/80 000]. The cost of the money borrowed is 6 per cent. Therefore, leverage is positive (7.75 per cent) and the company should go ahead. This will, however, increase the company's risk, because the interest has to be paid and return on assets could decline below that rate. If using OPAT to calculate ROA, the result is 7.5% (6000/80 000), again leverage will be positive.

3 Some possible additional information and ratios (more can be imagined, so this is an outline only):

- terms and security of present debts
- quality of management (especially Mr A)
- industry and competition prospects
- personal guarantees Mr A might offer
- interest coverage ratio
- accounts receivable collection and inventory turnover
- profit margin
- income tax information.

COURSEMATE EXPRESS

WEBSITE RESOURCES

CourseMateExpress

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- student revision quizzes
- glossary of key terms and flashcards
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16 Accounting policy choices

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

LO1 explain the impact of accounting policy choices on financial statements (16.2)

LO2 describe typical accounting policy choices (16.2) and how they are disclosed (16.6)

LO3 discuss opportunities for manipulation of profit by accounting policy choices and discuss the constraints on management (16.7)

LO4 calculate the effects of changes in accounting policies (16.3, 16.4, 16.5).

CHAPTER OVERVIEW

This chapter describes what accounting policy choices are, how they can have an impact on a company's profit, and the role and importance of professional judgement in accounting policy choices. The significance of accounting policy choices is illustrated with respect to three topics that have been covered in earlier chapters: inventory, depreciation and intangibles.

16.1 Introduction

The many differences among organisations, the complexity of users' demands for information and the reluctance of regulatory authorities to specify a single solution in the face of all this variation and complexity encourage a diversity of financial accounting methods, which form part of GAAP. Thus, organisations have some choices as to how to prepare financial statements to suit their circumstances. Analysing financial performance and position, and understanding the effects of such accounting policy, require knowledge of accounting methods, the principles of accrual accounting and GAAP that guide and constrain choices, and methods of analysis. It is important to extend some of the techniques you learned in earlier chapters, including ratio analysis, to explore the consequences of accounting policy choices and to develop an understanding of how to make sense of financial statements that reflect such choices.

16.2 Background to accounting policy choices

LO1 LO2

This section explains what is meant by accounting policy choices, and outlines some aspects that are worth thinking about when working through the rest of the chapter.

What is an accounting policy?

Imagine the following scenario: the bookkeeper for MegaMega Stores Ltd has to decide whether or not each sales invoice should be recorded as revenue (credit revenue, debit cash or accounts receivable) and so, each time, phones the CEO and asks whether that invoice should be recorded. You are probably thinking this is pretty silly and a waste of time and you would be correct in thinking that. What the company needs to do is decide, *in advance and in general*, what sort of transaction constitutes a sale that is to be recorded as revenue. This decision can then be communicated to the bookkeeper, who can apply the criteria to each invoice, and therefore decide what to record without phoning the CEO. In fact, it will be built into the software that is used to record the accounting data. The CEO can run the company instead of talking to the bookkeeper every few minutes.

An accounting policy is a decision made in advance about how, when and whether to record or recognise something. When you choose the location of an account in the financial statements (such as putting it in current liabilities rather than noncurrent liabilities), you are making an accounting policy choice!

Typically, companies make policy choices in areas such as:

1 What accounting methods will be used:
- how to value receivables, including how to estimate the allowance for doubtful debts (Chapter 8)
- how to value inventory including cost flow assumptions; for example, FIFO, LIFO and weighted average (Chapter 9)
- when to recognise liabilities (Chapter 9)
- how to compute depreciation; for example, straight-line, reducing-balance and units-of-production (Chapter 10)
- which expenditures on fixed assets should be capitalised (added to the asset accounts) and which should be included with expenses such as repairs and maintenance (Chapter 10)
- how to compute amortisation on intangible assets (Chapter 10)
- how to account for long-term investments; for example, cost method, equity method and consolidation (Chapter 12)
- which product development expenditures should be expensed and which (if any) should be capitalised (this chapter)
- what method to use to determine revenue recognition for partly completed projects (Chapter 13).

2 What information should be disclosed. Examples of disclosure policy include:
   - whether to disclose details of certain operating expenses (Chapter 13)
   - how much to disaggregate financial information for segments of a company
   - the amount of detail given in the accounting policy choice note (Note 1 of the financial statements)
   - how much detail to provide on contingent liabilities (Chapter 11).

3 How accounting estimates will be determined. Examples of accounting estimates include:
   - allowance for doubtful debts
   - useful life of plant and equipment
   - useful life of intangible assets subject to amortisation
   - provision for warranty liability
   - provision for employee entitlements.

4 What events or transactions will be recognised. Examples of accounting recognition decisions include:
   - write-down for inventory obsolescence (Chapter 9)
   - capitalisation of cost of asset betterments (Chapter 10)
   - recognition of intangible assets; for example, brand names and trademarks (Chapter 10)
   - recognition of liabilities for contingencies that are probable and can be measured reliably (Chapter 11)
   - recognition of revenue on partially completed sales, such as under long-term contracts (Chapter 13).

Accounting policy choices are very important to the interpretation and analysis of the financial statements. Without knowing how the statements were assembled, it is difficult to use them intelligently. For this reason, the first of the notes following the financial statements is usually a summary of the company's significant accounting policies (often in Note 1 of the financial statements). The other notes provide further details on important policies.

HOW'S YOUR UNDERSTANDING?

16A In point 3 above there is reference to five estimates: allowance for doubtful debts, useful life of plant and equipment, useful life of intangibles, provision for warranty liability, and provision for employee entitlements.

If each of these estimates gets larger, what is the effect on profit in the year of the change?

Why is there a choice?

Accounting, in spite of being numerical, is not mathematically cut and dried. Preparers of financial statements are forced to make choices, whether they like it or not, for the following main reasons:

1 There is information value in the location of an account in the statements (such as current versus noncurrent liability or revenue versus other income). Choice of location (classification) of accounts is, therefore, potentially important.

2 Even the basic transactional records of accounting – the bookkeeping records – require decisions about what is a transaction, which accounts should be used, and how and when transactions are to be recorded. For example, is an amount an asset or repairs and maintenance expense?

3 The basis of accrual accounting, as you have seen, is to augment the transactional records to produce a more complete (in the economic sense) picture of the organisation's performance and position. How to do this is a matter of professional judgement. Accrual accounting therefore necessitates choices about accounting figures, notes and methods. For example, what percentage of a contract has been completed in order to estimate revenue recognition on a contract that goes over more than one accounting period; or the amount of depreciation for the period.

4 In Australia, the United States, the United Kingdom, Canada, New Zealand and many other countries, governments and professional accounting standard-setters have been reluctant to specify all the solutions or require all organisations to follow them. Such authorities appear to believe that choices in accounting are appropriate, in order to fit accounting to each organisation's circumstances, and perhaps inevitable in our free enterprise economic system. Stock market participants, financial analysts and others who rely on financial statements are expected to attain sufficient knowledge of accounting and the organisation to make informed decisions, just as they would when buying the organisation's products or having other interactions with the organisation.

5 Because the complete financial statements include the figures and the footnotes and other narrative disclosures, there is frequently a decision to be made as to whether to adjust the figures for something or to disclose it in the narrative material instead, or even both. For example, if the company has been sued by a disgruntled customer, should that be recorded as a liability? Should it, instead, be disclosed only in the notes, or recorded as a liability with an explanatory note? Or are none of these appropriate?

How much freedom of choice is there?

Companies used to have much more freedom than they do now in deciding what to report and how to report. Some laws specify the use of particular reporting methods; for example, information about a company's transactions with its shareholders. But, more importantly, there is now a vast array of accounting standards that operate to constrain organisations' choices about their accounting.

Most countries, including those adopting international accounting standards, rely on a principles-based approach to accounting standards and accounting policy choice; that is, that the guidelines provided by the accounting standards provide a framework in which managers can select the most appropriate accounting policy choice for their context. Other countries, including the United States, adopt a more stringent rules-based approach where there are clear 'bright lines' as to where some accounting standards and policy choices operate.

In some countries certain accounting policies are not allowed even though they are in others. For example, LIFO is allowed in the United States but prohibited in most other countries, including Australia. These standards are continually evolving, as evidenced by recent changes to accounting standards on how to treat research and development and the impairment of goodwill.

In some areas, the choices have already been largely made by a standard-setting body, legislators or accepted practice. In others, there is no such guidance, and the organisation is free to make its own decisions.

- Examples of the first kind, which are already set, are the consolidation method, accounting for income taxes and accounting for leases. These are still subject to revision when needed.
- Examples of the second kind, where choice is allowed, concern which depreciation methods to use, which inventory cost methods to use, and how to determine allowance for doubtful debts.

Manipulation

Does accounting policy choice provide a way for company management to alter the picture presented in the financial statements – to present the story they want to tell rather than the truth? The short answer is yes. However, there is a fine line between choosing the accounting policies that suit the company's circumstances and therefore produce fair reporting, and choosing policies that tell a desired story that may not be fair. *The vast majority of companies and their managers are scrupulous about their accounting* and consider producing fair financial statements to be both ethical and good business practice. But we do learn of companies that have stepped over the line and manipulated their financial statements to make themselves look better or to hide some embarrassing result.

Here are some examples that the user of financial statements may want to consider:

- A company may choose accounting methods for receivables, inventories, amortisation or any other accounts that tend to make profits higher than would have been produced by other methods. This could involve optimistic estimates of earned revenue, the useful life of assets or the value of patents.

- Another company, concerned about its income tax burden, might make choices that would reduce profit and, in this way, put off paying taxes.
- Having promised the bank that a current ratio would be maintained at a certain level, a company may choose accounting methods that help the ratio look as high as possible, such as classifying longer-term receivables as current assets or short-term obligations as noncurrent liabilities.

There may be reasons for manipulating the financial statement figures in any direction, but good knowledge of the organisation may be necessary to predict what that direction is likely to be.

A dramatic example of profit manipulation is the 'big bath'. The big bath method works in the following way: the management of a company that has had a bad year may write off extra costs (e.g. writing inventories, receivables or intangibles way down) on the assumption that the company is already going to be criticised, so the criticism won't be much stronger if the results appear even worse. By transferring such costs to expenses now, instead of in later years, future expenses are reduced and, therefore, future profits will look better. The company will appear to bounce back quickly. Management will hope for praise for this recovery, even though it is not all real, because of the manipulation. Large write-offs become more critical when executive compensation packages are tied to changes in accounting profits. For example, if the compensation package included an incentive related to the change in profit from year one to year three, there are incentives for management to write off some assets (e.g. obsolete inventory, increasing the allowance for doubtful debts and higher depreciation) in year one, with the effect of decreasing year-one profit and increased profits in later years (e.g. year three), than if the changes were not made in year one.

Manipulation dangers can be overrated. First, managers cannot simply change accounting policies wherever and whenever they wish. There is a need for consistency, and if there is a change it must be disclosed in the notes to the accounts, together with the effect of the change on profit. Second, most managers are honest and anxious that their accounting be fair and truthful. Most consider that good financial reporting is important to the company's reputation and ability to borrow, raise share capital and generally do business. Most also consider good financial reporting to be part of good business and professional ethics. Third, there are many checks in place including the role of the auditor and surveillance activities by the Australian Securities and Investments Commission (ASIC) and the equivalent in other countries. However, the danger of manipulation is always there, so accountants, auditors and users who rely on profit and other measures for their decisions must be vigilant.

A few technical points

- *Cash flow:* Generally, accounting policy choice does not affect cash flow. Policy choices are made by accrual accounting entries, which do not affect cash directly. There may, however, be indirect or eventual effects, especially through income tax. But at the instant an accounting policy choice is implemented, there is no cash or cash flow effect.
- *Dual effects of changes:* As noted in prior chapters, and as the above entry shows, most accounting policy changes affect both the balance sheet and the income statement. They *must* affect both if they are to affect net profit. Here are some examples:

Balance sheet accounts	Main income statement accounts
Accounts receivable	Revenue, bad debts expense
Inventories	COGS expense
Prepaid and accrued expenses	Various expense accounts
Property, plant and equipment assets	Depreciation expense
Intangible assets	Amortisation expense
Liabilities	Various expense accounts
Equity	None*

*Transactions with owners, such as share capital issues and buybacks and dividends, are ordinarily not considered part of the measurement of profit. However, there are some technicalities that may allow this to be violated – this book does not cover such technicalities.

- *Classification and disclosure:* There are accounting policy choices in two areas that do not affect profit:
  - *Classification* policies (decisions about where within the balance sheet or where within the income statement to show accounts) do not affect profit because they do not involve *both* statements, as do recognition policies, but instead affect only one or the other.
  - *Disclosure* policies relate to what is said about the figures in the words used in the statements and in the notes to the statements.

HOW'S YOUR UNDERSTANDING?

16B Indicate the probable direction of the effect of each of the following possible accounting policy changes on the item given:

Policy change	Effect on
Accrue greater employee benefits expense	Liabilities
Recognise accounts receivable sooner	Revenue
Capitalise some repairs expenses	Net profit
Disclose the board's intention to declare a dividend	Net profit
Separate a bank loan into current and long-term	Net profit
Recognise doubtful accounts sooner	Net profit
Write off damaged inventories	Net profit

16.3 Inventory valuation and COGS: effects

LO4 Refer to the Meeix example in section 9.5. The following is a summary of the results for the Meeix example:

Cost method	Ending inventory asset $	COGS expense $	Total cost available $
FIFO	6 300	5 500	11 800
Weighted Average	5 957	5 843	11 800
LIFO			
Periodic	4 500	7 300	11 800
Perpetual	5 600	6 200	11 800

Let's assume Meeix is using FIFO for its inventory of Gloop. What would the effects on Meeix's financial statements be if it changed to one of the other three methods, beginning this year (i.e. without changing past years and so without changing the $4 cost of the 1 January inventory)? Meeix's income tax rate is 30 per cent.

If it changed to moving weighted average:

- the COGS expense would go up by $343 ($5843 – $5500), so net profit would decline by 70 per cent of that, or $240
- income tax expense and liability would go down by the other 30 per cent, or $103
- there would be no immediate effect on cash or cash flow.

You should be able to fill in the analysis for changes to any of the other methods. For your reference, the results for changes to the other two are shown in the next How's your understanding box.

HOW'S YOUR UNDERSTANDING?

16C If Meeix moved from FIFO to:

(i) LIFO periodic
(ii) LIFO perpetual

what would be the effect on COGS, net profit and cash flow?

16.4 Depreciation effects analysis

LO4

This accounting policy choice has its main effect on profit. Use of an accelerated method, such as reducing balance, increases depreciation in the early years of an asset's life, relative to the depreciation resulting from the use of the straight-line method. Therefore, profit will be lower in the early years if reducing balance is used, and higher in the later years, when the reducing balance depreciation falls below straight-line.

Refer to the Greco Ltd example in section 10.4. The results of using various depreciation methods were as follows:

		Reducing balance		
Year	Straight-line expense $	Begin book value $	Expense $	Units-of-production expense $
1	900 000	23 000 000	2 300 000	720 000
2	900 000	20 700 000	2 070 000	1 620 000
3	900 000	18 630 000	1 863 000	1 620 000
4	900 000	16 767 000	1 676 700	1 440 000
5	900 000	15 090 300	1 509 030	1 620 000
6	900 000	13 581 270	1 358 127	900 000
7	900 000	12 223 143	1 222 314	720 000
8	900 000	11 000 829	1 100 083	720 000
9	900 000	9 900 746	990 075	720 000
10	900 000	8 910 671	891 067	720 000
11	900 000	8 019 604	801 960	720 000
12	900 000	7 217 644	721 764	720 000
13	900 000	6 495 880	649 588	720 000
14	900 000	5 846 292	584 629	720 000
15	900 000	5 261 663	261 663	720 000
16	900 000	5 000 000	0	720 000
17	900 000	5 000 000	0	720 000
18	900 000	5 000 000	0	720 000
19	900 000	5 000 000	0	720 000
20	900 000	5 000 000	0	720 000
Total	18 000 000		18 000 000	18 000 000

The CEO wants to know what effects the depreciation choice has. Some things you could tell the CEO are:

1 The three methods of depreciation have different effects:
   - The straight-line method shows the same depreciation every year.
   - The reducing balance method starts out with much higher depreciation than that of the straight-line method and ends up with much lower depreciation.
   - The units-of-production method starts out lower, rises, then falls back in accordance with production plans.
2 Accordingly:
   - The reducing balance method will show lower net profits than straight-line in the earlier years and higher in the later years.
   - The result for the units-of-production method is greatly different from that produced by the straight-line method in years two to five, but in other years they are not much different.
3 If reducing balance or units-of-production is chosen, the company will look less profitable in the early years and more profitable in the later years.
4 The balance sheet effects are in the book value of the factory, and therefore also in the book value of the total assets of the business, which decline least rapidly with the straight-line method, and in retained profits.
5 Greco Ltd should choose the depreciation method that would best match its depreciation expense to the apparent economic value provided by using the factory. However, since depreciation does not affect cash flow or current assets, and because in this case the straight-line method provides higher net profits in the early years, it might be that the CEO will want to use that method. The CEO is likely to be concerned about the reaction to the company's performance over the next few years. As you saw earlier, most large Australian companies use straight-line, so that method probably also has comparability with other companies in Greco's industry in its favour.

HOW'S YOUR UNDERSTANDING?

16D Cold Lake management is trying to decide whether to use straight-line or reducing balance depreciation for its assets. If it used straight-line, the depreciation expense for this first year would be $1 120 000, but if it used reducing balance with the rate management believes would be appropriate, the expense would be $1 860 000. The company's income tax rate is 35 per cent.

Calculate how much higher or lower each of the following would be if the reducing balance method was used rather than the straight-line method: depreciation expense, net profit, cash from operations, net book value of assets, retained profits, current ratio.

16.5 Intangibles effects analysis

LO4 Let's look at an example. Checkup Auto Services Ltd, which has been in business for one year, has a chain of heavily advertised automobile service centres. The company's income tax rate is 30 per cent. The company makes it a practice to capitalise a portion of its advertising costs as a deferred asset. An accountant suggested to the company's financial controller that the policy of capitalising advertising should be ended because the future economic benefit from the expenditures is not clearly determinable. The controller wants to know what effect such policy changes would have.

DATA

- The amount of advertising capitalised was $75 000 this year.
- The capitalised amount is being amortised at 20 per cent per year.

PRESENT METHOD

- Amortisation expense is $15 000 this year (20 per cent of $75 000).
- Asset is $75 000 – $15 000 = $60 000 at end of this year.

PROPOSED METHOD

Expenses this year would be $75 000.

EFFECTS

If advertising were not capitalised:

- This year's net profit would be lower by 70 per cent of ($75 000 − $15 000) = $42 000.
- Income tax liability would go down by $18 000 (the other 30 per cent); that is, 30 per cent of $16 000.
- Retained profits this year would be lower by $42 000.
- Assets would be lower by the removal of $60 000 net capitalised advertising asset.
- Accounting equation proof (A = L + SE): ($60 000) = ($18 000) + ($42 000).
- No effect on cash flow, cash balance or working capital.

16.6 Accounting policy disclosure

You have seen that a company may have chosen a variety of accounting policies to fit its circumstances. Generally accepted accounting principles require that companies disclose what their significant policies are and any changes in them since the previous period. The idea is to help the users of the financial statements understand and interpret the figures and notes in the statement, as this chapter has tried to prepare you to do. LO2

A summary of the significant policies usually appears as the first of the notes to the financial statements. The user should be able to tell from this note the company's policies for inventory, depreciation, accounting for intercorporate investments and any other policies the company and its auditors feel are necessary for an understanding of how the financial statements have been prepared. For an example of this accounting policy disclosure, see Note 1, Significant accounting policies, to the Woolworths Limited financial statements in the appendix of this book. Policy specifics are often not disclosed if the methods used are what you'd expect; for example, if revenue is recognised at the point of sale or delivery, or if normal accruals are made for expenses.

Changes in accounting policies are also disclosed, including a description of the change and a calculation of the effect the change has had on the financial statements. Many changes have to be given retroactive effect. For example, if the revenue recognition method is changed, financial statements from past years have to be recalculated to show them on the new basis. Therefore, if a company has changed its accounting policy in some area, the prior year's figures in this year's annual report may not be the same as the ones you would have seen in last year's annual report.

16.7 Accounting policy choices: management's objectives

Each chapter of this book has included a few words about managers and accounting to bring a managerial perspective to the topics and to help answer the question, 'Why should a manager care about financial accounting?' LO3

In the case of accounting policy choice, the answer should not be hard to see. Management is responsible for the financial statements, as it is for other aspects of the business, and must see that it chooses the best accounting policies for its company for several reasons:

- As this book has emphasised, such choices are an inevitable consequence of accrual accounting. They are part of the judgemental fabric that is at the heart of accrual accounting, and, properly made, they add to the value of the financial statements. Improperly made, they detract from the value. In either case, they make a difference!
- Management is in the best position to make valid accounting policy choices because management knows the company best. Professional advisers can provide great assistance to management here, but management should have the data that will drive rational accounting policy choices.
- Management's performance on behalf of the owners is evaluated partly via the financial statements. While this provides a motivation for self-serving managers to abuse accrual accounting in order to make themselves look good, it also provides an opportunity for those more professional managers to create financial measures that show the company's performance in the clearest, most valid light. Such a portrayal should, in the long run, benefit everyone.
- In the company overview section in most annual reports, management reviews the year's performance and takes responsibility for it. This naturally leads management to be interested in the policy choices behind the financial statements, not only because they help determine how management's performance is measured, but also because they are the responsibility of management.
- Agency (contract) theory, based on the idea that self-interested behaviour is to be expected of everyone, provides a straightforward objective for management's accounting policy choices: to increase managers' share of corporate returns (and, therefore, decrease the returns of owners, creditors and employees). Agency theory puts no negative cast on this, simply treating it as a natural function of economically rational behaviour. But many people see this as manipulation, and are very critical of managers who appear to put their own interests first. Such behaviour may be prompted by managers' concerns about their performance bonuses, about avoiding complications due to investor or creditor nervousness regarding poor performance or about avoiding standing out as being too profitable. Managers' objectives are likely to be complex, including in many cases a simple wish to 'tell it like it is' in a fair and unbiased manner.

Readers of this book should now have considerable sensitivity with regard to the position of 'the manager' in the financial accounting situation and should be able to interpret or prepare financial statements more intelligently, given that sensitivity. If you are presently a manager, or are aiming to be one in the future, many of the techniques used should be helpful. For example, the ability to do, arrange for or at least use 'what if' effects analysis forms an important part of the manager's analytical toolkit. Graduates of accounting courses should be in a particularly good position to answer others' 'what if' questions. Financial statements are, therefore, closer to the centre of effective management than you might have imagined. This closeness should motivate managers to pay close attention to their financial statements and should motivate others (users, accountants and auditors) to understand management's role in preparing any financial statements with which they are involved.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first,* because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

Research and development policies

You are preparing the financial statements for Ironore Ltd, and the CFO asks you to capitalise $2 million worth of development expenses, previously recorded during the current financial year.

1. What journal entries would you use to record this transaction?
2. How will this transaction affect the following statements?
   a. income statement
   b. balance sheet
   c. statement of cash flows.
3. What does capitalising an expense mean?
4. Suggest reasons for the CFO's decision.

PRACTICE PROBLEM B

Inventory policies

Shown below are the disclosures with respect to inventory for two companies. They were extracted from Note 1 of the financial statements describing accounting policies.

> **Company A**
> At balance date all inventories on hand or in transit are valued at the lower of cost and net realisable value. Cost is determined using the weighted average cost method, after deducting any purchase settlement discount, and including logistics expenses incurred in bringing the inventories to their present location and condition.
>
> **Company B**
> Inventories, including work in progress, are valued at the lower of cost and net realisable value. Cost is determined principally on a first in, first out basis and, in the case of manufactured goods, includes direct materials, labour and production overheads.

1. What are the main differences in accounting policies for inventory between the two companies?
2. If all other things were equal (such as same sales or same expenses), which company would have the higher profit for the year and the higher inventory figure?

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts and are then followed by a set of problems.

DISCUSSION QUESTIONS

1. What is an accounting policy choice?
2. In what areas do organisations often make policy choices?
3. Select five accounting policy choices. Describe the potential impact on profit and total assets of each of the choices.
4. Why is the location of an item in the financial statements an accounting policy choice?

5 Why do organisations have a choice on what accounting policies to use?

6 Are there any limits on the choices that companies have?

7 As you have seen, there is a general conflict between two financial reporting objectives. The first objective is to fit the accounting to each company's circumstances so that the resulting reports are relevant for understanding or evaluating that company. The second is to make accounting consistent from company to company so that intercompany comparisons may be facilitated and the overall credibility of the information maintained. Write a paragraph giving your views on how important this conflict is and how (if at all) it should be dealt with.

8 Should management have the responsibility and the authority to choose companies' accounting policies, or should that role be someone else's (such as the government's, the auditor's or an independent board's)? If you think it should be management's role, explain why. If you think it should be someone else's role, explain whose, and why.

9 A commentator on the accounting scene remarked: 'Management makes its accounting choices to serve its own interests, and there's no way the poor lonely auditor can hold the fort of fairness when you consider how vague and judgemental accrual accounting's criteria for accounting policy choices are.' What are your views on the commentator's remarks?

10 a Outline the kinds of information you would expect to see in a company's significant accounting policies note to the financial statements.

b How should a company decide what to include in that note?

c A business commentator suggested that, when a company uses an accounting policy that is unusual, its significant accounting policies note should include a calculation of the effect on profit of using that policy as compared to the more usual practice. What do you think of that idea?

11 Comment briefly on the following remarks by a businessperson:

a 'No one cares what our accounting policy choices are, because they have no effect on the price of the company's shares.'

b 'Last year we sold some equipment that had a book value of $70 000 for $54 000. I was really angry at our CEO for losing $16 000, and I nearly fired him.'

c 'I don't allow our company to include any intangible assets on its balance sheet because I prefer a conservative balance sheet that doesn't contain questionable assets.'

d 'Once we have established proper accounting policies, all those notes at the end of the financial statements are really an irrelevant nuisance.'

12 Write a paragraph on each of the following topics, using the perspective on accounting policy choice and methods provided in this chapter:

a Why the auditor's report refers to whether the company's financial statements have been prepared in accordance with GAAP.

b Why professional judgement is needed in preparing financial statements.

c Whether it is justifiable to use an aggressive (in other words, early in the production–sale–collection cycle process) revenue recognition policy.

13 A shareholder in a large public company threatens to sue management, the auditors and the AASB for 'approving conservative accounting policies that have resulted in poor apparent performance and low stock prices that have reduced my investment value'. What do you think of the shareholder's complaint?

14 During lunch with a senior executive of a large public company, you are asked to respond to several comments, including the following:

a 'Accounting standards and principles evolve too slowly to keep up with the rapidly changing needs of businesses such as ours. Why don't we just ignore standards and GAAP, and do our accounting the best way for our needs?'

b 'I would be glad to see our goodwill asset written off. I can't see the sense in including such a thing with the balance sheet assets anyway. To me, it's not like the other assets.'

c 'You just referred to judgement in applying accounting principles. That's foolish: judgement is just a word people use when they'd prefer not to follow the rules.'

d 'I've heard that the auditors may not agree with our planned accounting changes. Who cares? We can always change auditors.'

15 A new CEO is appointed to an organisation. Why might he or she have incentives to write off particular capitalised assets, write down some investments and write off a lot of bad debts?

16 Given that accounting choices provide management with the opportunity to act in its own self-interest, what are the benefits for financial statement users of allowing managers to choose accounting policies?

17 Refer to the following statement and answer the questions that follow:

> 'In an accrual accounting setting, altering policies by, for example, choosing to capitalise rather than expense an interest cost or using straight-line depreciation versus reducing balance, achieves nothing more than to shift the recognition of expenses from one period to another. Consequently, across time, such choices ought to count for little, if anything at all.'

a On what basis might this have been argued?

b What reasons are there to support the idea that the conclusion that has been reached may be overly simplistic?

PROBLEMS

PROBLEM 16.1

Review question on accrual accounting and accounting policy choices

DEF LIMITED
BALANCE SHEET AS AT 30 JUNE

	2019 $	2018 $
Current assets		
Cash	40 000	60 000
Accounts receivable	650 000	300 000
Allowance for doubtful debts	(50 000)	(50 000)
Inventory	700 000	290 000
	1 340 000	600 000
Noncurrent assets		
Equipment	1 800 000	1 100 000
Accumulated depreciation	(550 000)	(100 000)
Capitalised borrowing costs	200 000	–
	1 450 000	1 000 000
Total assets	2 790 000	1 600 000
Current liabilities		
Accounts payable	670 000	556 000
Tax payable	60 000	44 000
	730 000	600 000
Noncurrent liabilities		
Loan	580 000	600 000
Total liabilities	1 310 000	1 200 000
Net assets	1 480 000	400 000

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Shareholders' equity		
Share capital	1 150 000	250 000
Retained profits	330 000	150 000
	1 480 000	400 000
Sales (all on credit)	1 000 000	640 000
Net profit after tax	200 000	128 000
EBIT	290 000	197 000
Tax expense	41 000	32 000

Note: no equipment was sold during the year.

1 a What is the interest expense for 2019?
  b How much equipment was purchased during the year?
  c What was the depreciation expense for 2019?
  d Were any shares issued?
  e How much in dividends was paid during 2019?
  f How much cash was received from customers during the year?
  g How much was paid in tax?

2 Referring to the information in the question, provide four examples of accounting policy choices that DEF may have made in determining profit that may have increased this year's profit.

PROBLEM 16.2

Revision plus accounting policy choices

QRST LIMITED
BALANCE SHEET AS AT 30 JUNE

	2019 $	2018 $
Current assets		
Cash	120 000	100 000
Accounts receivable	1 000 000	900 000
Allowance for doubtful debts	(100 000)	(100 000)
Inventory	780 000	1 200 000
	1 800 000	2 100 000
Noncurrent assets		
Equipment	2 700 000	2 600 000
Accumulated depreciation	(700 000)	(1 100 000)
Capitalised R&D	–	400 000
	2 000 000	1 900 000
Total assets	3 800 000	4 000 000
Current liabilities		
Accounts payable and accrued expenses	1 000 000	1 340 000
Tax payable	88 000	100 000
Unearned revenue	112 000	0
	1 200 000	1 440 000

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Noncurrent liabilities		
Loan	1 200 000	1 160 000
Total liabilities	2 400 000	2 600 000
Net assets	1 400 000	1 400 000
Shareholders' equity		
Share capital	1 000 000	900 000
Retained profits	400 000	500 000
	1 400 000	1 400 000
Sales (all on credit)	1 280 000	2 000 000
Net profit after tax	256 000	400 000
EBIT	394 000	580 000
Tax expense	64 000	82 000

Additional information:
Equipment that cost $1 000 000 and had accumulated depreciation of $600 000 was sold for $500 000.

1 As of 30 June 2019, what amount has been paid by QRST Limited shareholders to become shareholders of the company?
2 What account in the balance sheet tells you that QRST Limited has been profitable since incorporation?
3 If you find out that the market value of QRST Limited inventory at 30 June 2019 is $800 000, would you include inventory in the balance sheet at $780 000 or $800 000?
4 Was there any gain or loss on sale of equipment?
5 How much equipment was purchased during the year?
6 Were any shares issued?
7 Were any dividends paid? If so, how much?
8 How much was paid in tax?
9 If capitalised R&D had been expensed, what balance sheet accounts would have been affected?
10 If the company recognised $50 000 extra of accrued expenses, what accounts in the balance sheet and the income statement would be increased or decreased?
11 What would be the impact on (a) the balance sheet, and (b) the income statement if the amount in unearned revenue had been recognised as revenue?
12 Inventory is valued using the FIFO method. If the price of inventory is increasing, what would have been the effect on the following if the weighted average method had been used?
  a Closing inventory in the balance sheet
  b COGS
  c Net profit
  d Cash flow from operations
13 What was the depreciation expense for the year? If the company changed to an accelerated method of depreciating noncurrent assets, what would be the effect on net profit for the year and equipment (net) at year-end?

PROBLEM 16.3

Impact on profit and the balance sheet

Indicate the impact that each of the following errors or omissions would have on a company's 2019 net profit, assets and liabilities.

Use the symbols U = understate, O = overstate or NE = no effect to indicate the impact. Dollar amounts are not required.

1 Management uses the percentage-of-sales approach method to calculate the allowance for doubtful accounts. Management calculated the allowance for doubtful debts on the basis of 2 per cent of sales. However by year-end it was aware that the rate should have really been 3 per cent of sales. Management does not adjust the allowance for doubtful accounts at year-end. Sales equal $1 million.

2 The company calculated depreciation over eight years where the expected life of the asset is five years. The difference in depreciation per year amounts to $100 000.
3 The company owns 20 per cent of X shares, having paid $200 000 for these shares last year. During the year, X made a profit of $1 million and paid dividends in total to all shareholders of $600 000. The company used the cost method when it should have used the equity method.
4 Company sales amount to $1 million and the company estimates that warranty costs will be 2 per cent of sales for each of the first two years. No warranty expenses are recorded in this year.
5 Auditors estimate that the provision for long service leave should be $1.2 million, but the company has recorded it as $900 000.

PROBLEM 16.4

Accounting policy choice – impact on financial statements

Software Ltd is a software technology company that began operations at the beginning of 2017. It plans to list on the Australian Stock Exchange in 2019. The company believes that it can start selling its software program from 2018 (sales forecasts are in the income statement below).

The software program is to be sold and delivered (i.e. downloaded) via the internet, thus allowing the company to avoid product sales and delivery costs. The company needs to carry out research and development activities throughout its life cycle to keep up with ever-changing computer technologies. The following schedule provides the expected expenditure on research and development.

Expected expenditure:	2017 $000	2018 $000	2019 $000	2020 $000
Research	1 000		600	
Development		600		600

The company's current accounting policy for research and development costs is as follows:

Research	Immediate expensing
Development	Three years' straight-line amortisation

The summary forecast income statement is as follows:

SUMMARY FORECAST INCOME STATEMENT

	2017 $000	2018 $000	2019 $000	2020 $000
Sales	0	500	1 000	2 000
Less:				
Operating expenses	200	300	400	500
Expenses relating to:				
Research	1 000		600	
Development	–	200	200	400
Total expenses	1 200	500	1 200	900
Net profit before tax	(1 200)	0	(200)	1 100

The CFO notices that as the company is expected to make a loss in 2019, it would be difficult to go for a public listing in 2019. He is considering the accounting policy on research and development costs as follows: research costs expected to be incurred in 2019 and onwards will be capitalised and amortised over three years, and development costs expected to be incurred in 2018 and onwards will be immediately expensed.

1 Recalculate the summary forecast income statement to reflect the change in accounting policy for research and development.
2 Explain why the CFO may want this change.
3 Would the above change be consistent with Australian Accounting Standards?
4 Discuss the cash flow implications of the proposed accounting policy changes for the year 2018 only.

PROBLEM 16.5

Accounting policy choice and impact on financial statements

ABC is considering issuing new shares to finance expansion. The management prepared the following income statement for the period ending 31 December 2019, to be submitted to the board of directors for its approval:

ABC
INCOME STATEMENT FOR THE PERIOD ENDING 31 DECEMBER 2019

	2019 $m	2018 $m
Sales revenue	678.2	330.9
Expenses	(908.6)	(305.7)
Earnings before interest, tax, depreciation and amortisation (EBITDA)	(230.4)	25.2
Depreciation and amortisation	(35.3)	(12.3)
Net interest (expense)/revenue	3.3	(1.6)
Net profit/(loss) before income tax	(262.4)	11.3
Income tax expense (30%)	–	(3.4)
Net profit/(loss) after income tax	(262.4)	7.9

The CFO suggests that the $450 million spent on marketing costs on 1 January 2019, which is currently treated as an expense, should be capitalised and amortised over three years instead. This treatment was consistent with treatment of similar costs by other companies he had previously worked for.

1. Recalculate and prepare a new 2019 income statement to reflect the proposed change in the accounting policy for marketing costs.
2. Should the marketing costs be considered an asset? Apply the relevant definition and recognition criteria in your answer.
3. Discuss the cash flow implications of the proposed accounting policy change for 2019 and 2020.

PROBLEM 16.6

Accounting policy choice – software development costs

Computer Ltd provides the following information in its 2018 financial statements:

> **Software development costs**
> Software development costs are charged to profit from ordinary activities before income tax is incurred or deferred, where it is expected beyond any reasonable doubt that sufficient future benefits will be derived so as to recover those deferred costs.
>
> Software development costs are amortised on a straight-line basis from the date they are held ready for use over the period during which the related benefits are expected to be realised, but not exceeding three years.

Discuss the judgements to be made by the accountant. How does each judgement affect profit in 2018 and 2019?

PROBLEM 16.7

Interest capitalisation policies

> **Company C**
> Financing costs are recognised as an expense in the period in which they are incurred, unless they relate to a qualifying asset. Financing costs incurred for the construction of any qualifying asset are capitalised during the period of time that is required to complete and prepare the asset for its intended use or sale.

Compare the possible accounting treatments on capitalisation of interest for the company. How does the policy on interest capitalisation have an impact on profit in different accounting periods?

PROBLEM 16.8

Inventory cost and effects calculations

You work for a large local company as the inventory manager. The company uses FIFO in accounting for inventory. In June, the company began to stock a new product, Painto. The June inventory record for Painto was:

Date	Purchase price	Units purchased	Units sold	Units on hand
June 1	$10	1250		1250
10	$11	1000		2250
12			250	2000
17	$12	500		2500
23			2000	500
27	$13	1500		2000
30			800	1200

1 Calculate, using FIFO:
   a the cost of the 30 June inventory of Painto
   b the COGS for Painto for June.
2 Calculate, using LIFO (either perpetual or periodic):
   a the cost of the 30 June inventory of Painto
   b the COGS for Painto for June.

PROBLEM 16.9

Accounting policy choice

Consider the following note disclosure from the financial results of WW Ltd, a large retailer:

> Settlement discounts, rebates and other purchase allowances totalling $600.9 million currently recognised in other operating revenue, will be reclassified as a reduction in cost of sales of $418.3 million, a reduction in administration expenses of $36.1 million and as an increase in other revenue from ordinary activities of $146.5 million.

1 Provide a journal entry for the reclassification mentioned above.
2 Explain the rationale for treating 'settlement discounts, rebates and other purchase allowances' as a reduction in cost of sales rather than revenue.
3 State three financial ratios that the above adjustment would affect and how the adjustment would affect these ratios (increase or decrease).

PROBLEM 16.10

Brand name policy choices

Company D

Goodwill and brand names

Goodwill on acquisition is measured at cost being the excess of the cost of the acquisition over the fair value of Company D's share of the net identifiable assets acquired. Goodwill is not amortised.

Brand names are initially recorded at cost based on independent valuation at acquisition date (which equates to fair value). Based on the nature of the brand names acquired by Company D, which are international brands that benefit from competitive advantages due to technology, innovation and product development, it is not possible to make an arbitrary assessment that these brand names have a finite useful life, quantifiable in terms of years except where such brands are subject to licensing agreements covering a finite period. Brand names subject to a licensing arrangement are amortised over the life of the arrangement. No amortisation is provided against the carrying value of those brand names not subject to a licensing arrangement as Company D believes that the lives of such assets are indefinite at this point.

> Goodwill and brand names are reviewed annually, or more frequently if events or changes in circumstances indicate that their carrying values may be impaired, and are carried at cost less accumulated impairment losses.

1 If an asset is impaired and written down, what is the impact on the income statement and the balance sheet?
2 Suggest two alternative accounting policies for accounting for brand names.
3 What would be the impact on profit and total assets for the year of adoption of the above alternative policies?

PROBLEM 16.11

Multiple-issue effects analysis

Earlwood Ltd has been operating for several years now. So far the profit for the current year is $75 000, before income tax. Management is considering a few changes and has asked your advice. The possible changes are:

a Change the revenue recognition policy to recognise revenue earlier in the process. This would increase accounts receivable by $26 000 immediately and $28 000 at the end of the previous year.
b Make a monthly accrual of the bonuses paid to employees at the end of each fiscal year. This would increase accounts payable by $11 000 immediately and $7000 at the end of the preceding year.
c Postpone for five years repayment of a $19 000 loan (by Jan to the company), which has up to now been classified as a current liability.
d Capitalise as an asset a development cost of $14 000 for wages expense recorded in the preceding year.

Required:
Calculate the net profit before tax for the current year.

PROBLEM 16.12

Effects analysis

Indicate the impact that each of the following errors or omissions in 2019 would have on a company's 2019 net profit, assets and liabilities (year-end is 31 December). Place the symbols U = understate, O = overstate or NE = no effect in the appropriate box. Be sure to place an answer in every box including dollar amounts.

1 Did not accrue wages of $40 000 earned by employees in 2019 but due to be paid in 2020.
2 $70 000 was received and credited to accounts receivable; of this amount, $25 000 was in fact an advance payment from a customer for work to be done next year.
3 Did not adjust the prepaid insurance account to reflect that $1000 of insurance coverage had been used up.
4 Recorded a full year of accrued interest expense on a $30 000, 6 per cent note payable that has only been outstanding since 1 July 2019.

Transaction	Net profit	Assets	Liabilities
1			
2			
3			
4			

CASES

CASE 16A Woolworths Limited

Refer to the extracts of the annual report of Woolworths Limited in this book's appendix.

1 Provide examples of some accounting policy choices disclosed in Note 1 of the accounts.
2 Do any of the other notes provide further details on important policy choices?
3 Assume there was a change of accounting policy to write off intangibles over 10 years. What effect would this have on net profit and total assets?
4 Would a downward revaluation of liquor licences have any effect on profit?

CASE 16B Accounting policy choices

This case refers to some interesting accounting decisions 20 years ago but still of interest. Note 1 from the 1996 accounts of Sydney Harbour Casino Holdings Limited notes that 'Pre-opening expenses consist primarily of set-up costs, establishment costs and the costs associated with the organisation of the Casino licence, share issue and finance costs. Pre-opening expenses have been written off as incurred'.

Pre-opening Costs for a Casino

When Sydney Harbour Casino Holdings Ltd opened back in 1996 it recorded $1 million net profit for its first six months of operations, but this was a lot less than both prospectus forecasts and its main competitor, Crown Casino in Melbourne.

The chairman of Sydney Harbour Casino argued that Crown's better performance was largely due to accounting methods rather than with real operations.

The big difference is that Sydney Harbour Casino treated its pre-opening costs as expenses in its first year while Crown capitalised those costs.

The result was that Sydney Casino's $24.8 million profit was reduced by $22 million in pre-opening costs and amortisation of pre-paid rentals. Its EBIT was $47 million but the result was a lot lower than prospectus forecasts and revenue for the 1996 financial year was 22 per cent lower than prospectus forecasts and its predicted net profit of $37 million.

Press announcements referred to the casino's renewed calls for a new, lower tax rate for high-roller gamblers, and outlining the benefits this would bring to NSW by additional revenue dollars for the government.

Adapted from *Australian Financial Review*, 15 August 1996

1 Explain, as simply as possible, what is included in pre-opening costs.
2 How does the accounting treatment for pre-opening costs differ between the two casinos? What effect do the differences have on both profit and the balance sheets of the two companies?
3 Why might Sydney Casino have chosen to account for pre-opening costs in this way?
4 Is the choice of accounting method an excuse for not reaching profit forecasts?

CASE 16C WorldCom

One of the largest financial statement frauds of this century involved a US telecommunications company called WorldCom. The frauds involved overstating profits by $74.4 billion (yes, billion!) between 2001 and 2002. Expenditure that should have been recorded as expenses in 2001–02 was instead capitalised; that is, included in the costs of the asset.

1 Using the accounting equation, show how the equation (assume all expenditure have been paid in cash):
   a would have been recorded by the company
   b should have been recorded by the company.
2 Explain which of the following would be affected by the fraudulent reporting in 2001–02:
   a total cash flows
   b cash flow from operations
   c cash flow from investing
   d cash flow from financing.

CASE 16D Intangibles

Shown below are extracts from Note 1 of the financial statements of TV Station 1 and TV Station 2 from previous financial years.

TV Station 1

Television program rights

Television programs which are available for broadcast are recognised as an asset and stated at cost.

Series programs are written off in full upon initial airing. Features are amortised over their estimated useful lives. Furthermore, the carrying values of television program rights are tested for impairment as set out in Note 1(e).

Television programs at balance date for which the telecast licence period has commenced or will commence in the succeeding year has been classified as a current asset.

TV Station 2

Program rights

Television program rights are carried at the lower of cost less amortisation and net recoverable amount. Cost comprises acquisition of program rights and, for programs produced using our facilities, direct labour and materials and directly attributable fixed and variable overheads.

Recognition

Television program assets and program liabilities are recognised from the commencement of the rights period of the contract. Contract payments made prior to commencement of the rights period are disclosed as a prepayment and included under television program rights and inventories.

Amortisation policy

Our amortisation policy requires the amortisation of purchased programs on a straight line basis over a life of between one and three years from commencement of the rights period or over the rights period of the contract (whichever is the lesser). Produced programs are expensed on telecast or in full on the twelfth month after completion.

1 What are the differences between the accounting policies of the two companies for television program rights?
2 Which company do you believe has the more conservative accounting policies? Why?

HOW'S YOUR UNDERSTANDING SOLUTIONS

16A Your answers should be: decrease, increase, increase, decrease and decrease.

16B Your answers should be: increase, increase, increase, no effect, no effect, decrease and decrease.

16C Your answer should be:

(i) COGS expense would go up $1800, so net profit would decline by 70 per cent of that, or $1260. There is no immediate effect on cash or cash flow.

(ii) COGS expense would go up $700, so net profit would decline by 70 per cent of that, or $490. There is no immediate effect on cash or cash flow.

16D Your answers should be: $740 000 higher, $481 000 lower, no effect, $740 000 lower, $481 000 lower, and no effect.

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1. DR Capitalised research and development
   CR Research and development expenses
2. a profit increases
   b asset capitalised (research and development) increases
   c no effect
3. Making it an asset and then amortising it over the life of the asset.
4. Hopefully it is because it is believed that the research and development will have future benefits beyond any reasonable doubt. It will reduce expenses (increase profits) this year and increase expenses (reduce profits) in future years.

PRACTICE PROBLEM B

1. Company A uses weighted average, Company B uses FIFO. Company A refers to the weighted average cost of inventory (net of discounts) and logistic expenses, whereas Company B refers to direct costs (direct materials and direct labour) and production overheads.
2. Assuming rising prices, Company B would have the high profit (FIFO versus weighted average).

COURSEMATE EXPRESS

WEBSITE RESOURCES

CourseMateExpress

Go to **http://login.cengagebrain.com** and use the access code that comes with this book for 12 months access to the resources and study tools for this chapter.

The CourseMate Express website contains:

> student revision quizzes
> glossary of key terms and flashcards
> and more!

17 Sustainability reporting[1]

ON COMPLETION OF THIS CHAPTER, YOU SHOULD BE ABLE TO:

- **LO1** explain the terms 'sustainability management' and 'sustainability reporting' (17.1)
- **LO2** outline what is generally reported in sustainability reports (17.2)
- **LO3** identify who are the organisation's stakeholders and explain their information needs (17.3)
- **LO4** describe the key reasons for the existence of sustainability reporting (17.4)
- **LO5** explain the Global Reporting Initiative (GRI) guidelines and reporting criteria (17.5)
- **LO6** provide examples of performance indicators used in sustainability reporting (17.5)
- **LO7** explain recent trends in sustainability reporting (17.6)
- **LO8** explain the reasons for the increase in assurance of sustainability reporting (17.6)
- **LO9** explain the importance of measurement and disclosure of energy use (17.7)
- **LO10** identify the objectives of integrated reporting (17.8)
- **LO11** identify the key critical issues and concerns related to integrated reporting (17.8).

CHAPTER OVERVIEW

Through Chapters 1 to 16, you have gained knowledge of the content of the three key financial statements – the balance sheet, the income statement and the statement of cash flows – and some other aspects of large annual reports produced by companies. An evolving trend is to incorporate a considerable amount of information on issues of sustainability, including such issues as the company's impact on the environment, particularly greenhouse gas (GHG) emissions and energy usage, work safety, product safety and impact on the community. For some companies, this takes up many pages of the annual report, while for others it is more concise. Some companies also issue a separate sustainability report, which often is in excess of 100 pages. Given the expertise of accountants in measuring and reporting information, it is not surprising that accountants have a major role in sustainability reporting. This chapter introduces you to the concepts of sustainability reporting and then considers a new form of reporting referred to as integrated reporting. This includes both financial and sustainability reporting, together with governance and remuneration reporting, which is all integrated by management commentary.

17.1 What is sustainability reporting?

LO1 In considering the nature of sustainability reporting, it is necessary to consider what sustainable development and sustainability management are, and what sustainability information is being reported.

- Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- Sustainability management is concerned with the maintenance and long-term enhancement of six types of capital that reflect an organisation's overall impact and wealth.

  These six types of capital are defined as:[2]
- *financial capital:* the pool of funds available to the organisation
- *manufactured capital:* manufactured physical objects available to the organisation
- *intellectual capital:* knowledge-based intangibles available to the organisation, including intellectual property and systems, procedures and protocols
- *human capital:* capabilities, experience and competencies of individuals available to the organisation
- *social and relationship capital:* the value added by internal and external relationships to the organisation
- *natural capital:* the environmental resources (e.g. energy and water) and processes used by the organisation in the delivery of goods or the provision of services.

These six types of capital relate to the organisation's environmental, social and economic performance, with environmental performance related to natural capital, social performance related to human capital and social and relationship capital, and economic performance (including financial performance discussed in earlier chapters) relating to the organisation's impact on the wider economy in addition to its own manufactured and financial capital.

A sustainability report provides disclosures on an organisation's impacts on the environment, society and the economy. It assists organisations in setting goals, measuring performance and managing change in order to make their operations more sustainable. Sustainability reporting also helps users to understand the effects of sustainability developments on an organisation's activities and its strategies.[3]

HOW'S YOUR UNDERSTANDING?

17A Select a company you are familiar with, such as Woolworths, Qantas or any of the big four banks (ANZ, National Australia Bank, Commonwealth Bank, Westpac) and peruse its sustainability report.

How the concept of sustainability reporting has changed over time

Early reports in the 1970s and 1980s – referred to as social accounting, corporate social responsibility accounting or social responsibility accounting – were produced with the aim of considering the organisation's impact on people. The reporting trend then moved to environmental reporting, with an emphasis on a firm's environmental impacts (e.g. pollution). Next, triple bottom line reporting was introduced to cover environmental and social performance as well as economic performance. In the mid-2000s, this terminology was gradually replaced by the term 'sustainability reporting'. The term 'environmental, social and governance' (ESG) reporting has since been introduced to describe where the language of sustainability comes together with capital market terminology.

It should be noted that different terminology is used by different countries and even across different organisations within the same country. For example, some Australian companies including Transurban use the term 'sustainability report', Woolworths and Commonwealth Bank use 'corporate responsibility report' and Rio Tinto uses the term 'sustainable development report'. This book uses the term 'sustainability reporting'. Sustainability reports often appear as part of the annual report, or as a separate sustainability

report or a combination of these alternatives. Ideally, these reports will provide a balanced representation of sustainability performance for an organisation; that is, both positive and negative impacts.

17.2 What is reported in sustainability reports?

LO2

As sustainability reporting is largely voluntary, what is reported varies considerably depending on the industry involved, the needs of stakeholders and the views of management.

Examples of disclosures include the following:[4]

1. Environmental examples:
   - *energy*, including direct energy used, listed by source, and improvements in energy usage
   - *water*, including the quantity of water withdrawn and the percentage of water reused
   - *emissions*, including direct and indirect greenhouse gas emissions and initiatives to reduce greenhouse gas emissions and the resulting achievements.
2. Human rights examples:
   - *non-discrimination*, including incidents of discrimination recorded and corrective actions taken
   - *child labour*, including the identification of suppliers or operations at significant risk of using child labour and the corrective actions taken to contribute to the eradication of child labour.
3. Labour practices examples:
   - *occupational health and safety*, including the number of injuries, lost days and deaths
   - *training and education*, including average hours on training provided to different employee categories.
4. Society examples:
   - *local communities*, including assessments of the impact (both positive and negative) on the local community
   - *anti-competitive behaviour*, including legal actions against the company for anti-competitive behaviour
   - *compliance*, including the number of sanctions and the monetary value of fines for not complying with laws and regulations.
5. Product responsibility examples:
   - *customer health and safety*, including incidents of non-compliance with regulations and voluntary codes
   - *product and service labelling*, including incidents of non-compliance with regulations and voluntary codes
   - *customer privacy*, including complaints and breaches of privacy.
6. Economic examples:
   - *market presence*, including policies and practices relating to the hiring of locals.

The above is often shown in a mixture of quantitative and qualitative information including narrative, pictures, tables and graphs.

In addition to a separate sustainability report and more detailed annual reports, many companies also include sustainability information in key performance indicators. Exhibit 17.1 shows an extract from Westpac's summary of its performance in its *Annual Review & Sustainability Report 2017*. This summary of non-financial results, including those on environment, social impact and supply chain, appears directly after the summary of financial and other information.

On Qantas' sustainability website (http://investor.qantas.com/sustainability/?page=foresight), the performance metrics are presented in the following categories: Economic Integrity, Safety and Security, Customer and Brand, People and Culture, Employees, Energy and Emissions. The performance measures for energy and emissions are reproduced in Exhibit 17.2.

EXHIBIT 17.1

WESTPAC GROUP

NON-FINANCIAL SUMMARY

	2017	2016	2015	2014	2013
Environment					
Total Scope 1 and 2 emissions – Aust and NZ (tonnes CO_2-e)	131 723	154 339	173 437	175 855	180 862
Total Scope 3 emissions – Aust and NZ (tonnes CO_2-e)	68 415	63 016	67 899	73 871	85 013
Paper consumption – Aust and NZ (tonnes)	2 706	3 304	4 857	5 334	5 762
Social impact					
Community investment ($millions)	164	148	149	217	131
Community investment as a percentage of pre-tax profits – Group (%)	1.42	1.39	1.30	2.02	1.33
Community investment as a percentage of pre-tax operating profit (cash earnings basis)	1.41	1.32	1.33	1.99	1.28
Financial education (participants)	112 263	59 596	65 538	49 812	32 577
Supply chain					
Number of suppliers assessed against Responsible Sourcing Code of Conduct	31	–	–	–	–
Spend with indigenous Australian suppliers – Australia ($millions)	2.5	1.6	1.2	–	–

Westpac, *Annual Review and Sustainability Report 2017*, p. 29 (https://www.westpac.com.au/content/dam/public/wbc/documents/pdf/aw/ic/2017_Westpac_Annual_Review_and_Sustainability_Report.pdf).

EXHIBIT 17.2

QANTAS GROUP

PERFORMANCE METRICS

Energy and emissions	Unit	2016/17	2015/16	2014/15	2013/14	2012/13
Average aircraft age – scheduled passenger fleet	Years	9.6	8.6	7.7	7.7	7.9
Aviation fuel consumption	000 Litres	4 873 267	4 805 045	4 635 760	4 738 057	4 834 093
Electricity (Australia)	MWh	169 466	172 092	191 459	213 406	222 667
Natural gas (Australia)	GJ	218 797	229 630	316 198	246 166	270 937
Diesel (Australia)	Litres	6 115 161	6 370 835	7 199 289	7 680 579	7 807 186
Fuel per 100 RTKs (group efficiency)	Litres	37.6	37.7	37.9	38.8	38.8
Water (Australia)	000 Litres	902 545	973 611	874 929	892 470	901 917
CO_2-e emissions – Scope 1	Tonnes	12 248 233	10 070 474	11 707 259	11 938 500	12 422 703
CO_2-e emissions – Scope 2	Tonnes	139 433	142 227	155 826	183 826	209 799
CO_2-e emissions – Total	Tonnes	12 387 666	12 212 701	11 863 085	12 122 326	12 632 502
CO_2-e emissions – Domestic	Tonnes	4 503 746	4 569 452	4 613 753	4 793 504	N/A
CO_2-e emissions – International	Tonnes	7 883 921	7 643 249	7 249 332	7 328 822	N/A
CO_2-e per 100 RTKs (group efficiency)	Kilograms	96.0	96.0	97.0	101.0	100.0
Change in emissions (year on year)	%	1.4	3	2.1	4.0	0.9
Direct waste to landfill (Australia)	Tonnes	20 635	21 972	20 115	22 328	22 563

Qantas Annual Report 2017. Positioning for Sustainability and Growth, p. 30.

17.3 Do stakeholders require more than financial reporting?

Who are the stakeholders and what do they want?

LO3

Sustainability reporting involves both engagement and communication with stakeholders. Stakeholders are those groups in society that affect the organisation or can be affected by the organisation. Stakeholders typically include shareholders, employees, suppliers, customers, communities (particularly local communities) and the government. However, some companies can have a wider range of stakeholders, including regulatory bodies, joint venture partners, opinion leaders, unions and representative groups. Different stakeholders will have different interests that will sometimes conflict; for example, in terms of the optimal number of staff employed, shareholders may have different interests from local communities. The number of stakeholders, their level of involvement and the type of involvement is also likely to vary between firms. For example, mining companies are likely to have a considerable stakeholder involvement from the local community, including farmers and traditional land owners.

As an example of the role of stakeholders in sustainability reporting, let's consider Transurban Limited, a toll road owner and operator. It has assets in Australia and the United States. Transurban owns and operates many of the roads you are likely to have travelled on, including CityLink in Melbourne, and the M2, M5 and M7 motorways, plus the Eastern Distributor and the Lane Cove Tunnel in Sydney. Transurban's 2017 sustainability snapshot notes: 'We recognise the importance of continually striving to improve our sustainability performance, focusing not only on what we achieve but how we achieve it'.[5] Transurban has conducted a series of engagement sessions with internal and external stakeholders to identify the current issues and future priorities for its sustainability program. Included in these discussions were employees, investors, road authorities, industry leaders and research institutions.

BHP Billiton has many international operations and its mines are often in remote areas of these countries. Therefore, its activities are likely to have a big impact on local communities. These impacts include being a major employer of this group; effects on the local environment, including the use of scarce water resources in competition with other users, and its reduction of environmental impacts through restoration activities; and giving back to the community through the support of community activities. We would therefore expect local community to be included in its list of stakeholders, which is what we find in its 2017 sustainability report. Stakeholders are listed as:

- business partners
- community-based organisations
- employees and contractors
- governments and regulators
- industry peers and associations
- labour unions
- local and Indigenous communities
- media
- non-government organisations
- shareholders and investment organisations
- society partners
- suppliers and customers.

STAKEHOLDER ENGAGEMENT

Organisations need to understand the way they affect their stakeholders. This involves identifying stakeholders and prioritising this list of stakeholders. This process is called stakeholder engagement and is

used by an organisation to identify, understand and respond to sustainability issues. The stakeholder engagement process involves the following steps:

1. involving stakeholders in developing and achieving responses to sustainability issues
2. determining the relevance and significance of sustainability issues to the organisation and its stakeholders
3. communicating with stakeholders and responding to stakeholder issues that affect the organisation's sustainability performance.

The following example of stakeholder engagement is drawn from BHP Billiton's 2017 sustainability report:

> As a global company, we interact with a range of stakeholders. Our methods and frequency of communicating to, and with, stakeholders are also diverse.
>
> - Globally, we communicate via our Annual General Meetings, corporate publications (including the Annual Report, Sustainability Report and other topic-specific reports), our website (bhp.com), releases to the market and media, analyst briefings, speeches and interviews with senior executives.
> - At a regional and local level, each asset is required to plan, implement and document stakeholder engagement activities. This includes newsletters and reports; community perception surveys and consultation groups; implementing community complaints and grievance mechanisms; and representation on specific industry association committees and initiatives.
> - As a key stakeholder group, we also engage with our people (employees and contractors) via tailored internal channels. These channels include our intranet; email and newsletters; town halls; and by inviting feedback and comment through employee perception surveys. Key internal announcements and videos are made available in English and Spanish.
>
> BHP Billiton, *Sustainability Report 2017*, p. 8
> (https://www.bhp.com/-/media/documents/investors/annual-reports/2017/bhpsustainabilityreport2017.pdf).

17.4 Why do organisations produce sustainability reports?

LO4 The number of organisations preparing sustainability reports is increasing, both in Australia and in the rest of the world. Here we outline a range of reasons for this trend, as identified by international financial firm KPMG:

- *Demonstrating transparency:* companies often wish to demonstrate their commitment to managing environmental, social and economic impacts and they can do this through sustainability reporting.
- *Creating financial value:* in preparing sustainability reports, companies collect and analyse data and often assess business processes. These processes can lead to opportunities for cost savings through more efficient use of resources and materials.
- *Enhancing reputation:* it is important to manage stakeholders' perception of the company's environmental, social and economic dimensions and in doing so enhance the company's reputation.
- *Achieving continuous improvement:* the process of external reporting of sustainability focuses attention on the integrity of the data and the need for continuous improvement across different areas. Establishing performance goals and quantified targets that are incorporated into the reports often leads to internal change.
- *Improving regulatory compliance:* by increasing the quality and quantity of voluntary disclosures, companies are likely to reduce future regulatory intervention.
- *Strengthening risk awareness and management:* management of risk is a key area of corporate governance and sustainability reports help a company demonstrate it is managing this aspect of risk, for example, the financial risk of climate change.

- *Encouraging innovation:* better understanding of stakeholders' concerns, needs and expectations often leads to the development of changes within the organisation, including innovative products and services that meet sustainability requirements.
- *Raising awareness, motivating and aligning staff, and attracting talent:* both present and prospective employees have views and expectations about sustainability issues and this is a major driver of sustainability reports, which help to keep employees informed and assist the company to attract new employees.
- *Attracting long-term capital and favourable financial conditions:* it appears that an increasing number of investors take sustainability issues into account in their decision-making processes. Thus the sustainability report allows the company to inform this group and also investment analysts, which is expected to affect the valuations of the company.
- *Maintaining a licence to operate:* many companies recognise the link between business success and an ongoing licence to operate. Particularly in the resources sector, the issue of a licence to operate has been important for a number of years, with both communities and stakeholders more likely to support companies that openly report on sustainability issues.

Adapted from KPMG, *'The Road Ahead': Survey of Corporate Responsibility Reporting 2017.*

A survey of company disclosures in sustainability, the *KPMG Survey of Corporate Responsibility Reporting 2017*, included the top 250 companies listed on the Fortune Global 500 ranking for 2016 (referred to as G250) and the largest 100 companies (based on revenues, referred to as N100) in each of the 49 countries included in the survey.

The purpose of the survey was to examine trends in public disclosure. As a consequence, the survey limited itself to publicly available information in corporate responsibility or sustainability reports, company websites and annual financial reports. Corporate responsibility reports between 1 July 2016 and 30 June 2017 were generally used. We refer to some of the results of this survey in this chapter.

17.5 Criteria for sustainability reporting

While the disclosure of financial information is regulated under company law and by accounting standards, what is disclosed in sustainability reports has traditionally been determined by the organisation reporting. This has led to concerns from stakeholders about completeness of information, as well as very different reporting between organisations making comparisons difficult. LO5 LO6

Suitable criteria

The Global Reporting Initiative (GRI) *reporting framework* is the most commonly used set of guidelines to aid companies in their sustainability and reporting practices, with 74 per cent of N100 and 89 per cent of G250 companies aligned to the GRI reporting framework, as reported in the *KPMG 2017* report.

The GRI *reporting framework* sets out principles and indicators that organisations can use to measure and report their economic, environmental and social performance. The benefit of using a consistent framework is that it allows comparability over time and between companies.

The GRI framework can be useful for:

- increased understanding of risks and opportunities
- emphasising the link between financial and non-financial performance
- influencing long-term management strategy and policy, and business plans
- benchmarking and assessing sustainability performance with respect to laws, norms, codes, performance standards and voluntary initiatives
- demonstrating how the organisation influences and is influenced by expectations about sustainable development
- comparing performance internally, and between organisations and sectors.

The GRI *reporting framework* offers reporting principles, standard disclosures and an implementation manual for the preparation of sustainability reports by organisations. The standard disclosures contain both general and specific disclosures. The specific disclosures are divided into three categories of non-financial indicators: economic, environmental and social. The social category is broken down further into labour practices and decent work, human rights, society and product responsibility subcategories. Examples of these specific disclosures appear in Exhibit 17.3.

EXHIBIT 17.3

GRI SUSTAINABILITY REPORTING STANDARDS

EXTRACTS FROM TOPIC-SPECIFIC DISCLOSURES

Economic

Economic performance:

- direct economic value generated and distributed, including revenues, operating costs, employee wages and benefits, payments to providers of capital, payments to government and community investments
- financial implications and other risks and opportunities for the organisation's activities due to climate change
- financial assistance received from government

Market presence:

- ratios of standard entry-level wage by gender compared to local minimum wage at significant locations of operation
- proportion of senior management hired from the local community at significant locations of operation

Indirect economic impact:

- development and impact of infrastructure investments and services supported

Procurement practices

- percentage of the procurement budget used for significant locations of operation that is spent on suppliers local to that operation (such as percentage of products and services purchased locally

Anti-corruption:

- total number and percentage of operations assessed for risks related to corruption and the significant risks identified

Anti-competitive behaviour:

- total number of legal actions for anti-competitive behaviour, anti-trust and monopoly practices and their outcomes

Environment

Materials:

- total weight or volume of materials that are used to produce and package the organisation's primary products and services

Energy:

- energy consumption within the organisation
- reduction of energy consumption

Water

- total water withdrawal by source percentage and total volume of water recycled and reused

Biodiversity:

- description of significant impacts of activities, products and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas

Emissions:

- direct greenhouse gas emissions (Scope 1)
- energy indirect greenhouse gas emissions (Scope 2)
- other indirect greenhouse gas emissions (Scope 3)
- reduction of greenhouse gas emissions

>

Effluent and waste:

- total volume of water discharge by quality and destination
- total weight of waste by type and disposal method

Products and services:

- percentage of products sold and their packaging materials that are reclaimed, by category

Environmental compliance:

- monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations

Supplier environmental assessment

- percentage of new suppliers that were screened using environmental criteria
- negative environmental impacts in the supply chain and actions taken

Social

Labour practices and decent work

Employment:

- total number and rates of new employee hires and employee turnover by age group, gender and region

Labour/management relations:

- minimum notice periods regarding operational changes

Occupational health and safety:

- type of injury and rates of injury, occupational diseases, lost days and absenteeism, and total number of work-related fatalities, by region and by gender

Training and education

- Average hours of training that employees have undertaken by gender and employee category

Diversity and equal opportunity:

- composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership and other indicators of diversity

Human rights

Non-discrimination:

- total number of incidents of discrimination and corrective actions taken

Freedom of association and collective bargaining

- description of operations and suppliers in which the right to freedom of association and collective bargaining may be at risk and measures taken to support freedom of association and collective bargaining

Child labour:

- operations and suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the effective abolition of child labour

Forced and compulsory labour:

- operations and suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labour

Security practices:

- percentage of security personnel who have received formal training in the organisation's human rights policies or specific procedures and their application to security

Rights of Indigenous peoples:

- total number of identified incidents of violations involving the rights of Indigenous peoples and actions taken

Human rights assessment:

- total number and percentage of operations that have been subject to human rights reviews or human rights impact assessments

Society

Local communities:

- percentage of operations with implemented local community engagement, impact assessments and development programs

Supplier social assessment:

- percentage of new suppliers that were screened using social criteria

Public policy

- total monetary value of financial and in-kind political contributions made directly and indirectly by country and recipient/beneficiary

Product responsibility

Customer health and safety:

- total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes

Marketing and labelling:

- total number of incidents of non-compliance with regulations and/or voluntary codes concerning product and service information and labelling, by type of outcomes
- total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion and sponsorship, by type of outcomes

Customer privacy

- total number of substantiated complaints received concerning breaches of customer privacy
- total number of identified leaks, thefts, or losses of customer data

Socioeconomic compliance

- total monetary value and number of significant fines and non-monetary sanctions for non-compliance with laws and/or regulations in the social and economic area, and cases brought through dispute resolution mechanisms

Adapted from G4 Sustainability Reporting Guidelines, Reporting Principles and Standard Disclosures, August 2015.

17.6 Trends in sustainability reporting

Assurance

LO7 LO8 As discussed in Chapter 6, it is mandatory for financial reports to be audited each year; however, for sustainability reports, assurance is voluntary. The number of large companies having their sustainability report assured is increasing and there is a strong trend among companies to have their sustainability reports assured by independent third parties. The aim of assurance is to validate and provide credibility to these reports. Some drivers towards this trend of increased assurance include increasing credibility with external stakeholders, meeting the requirements of sustainability indices, and obtaining more reliable internal data.

While financial statements are audited by accountants, sustainability reports may be audited by a range of third-party assurers including the major accounting firms who carry out this assurance work.

Australia's largest public companies employ a mixed approach as to who assures their sustainability reports; some are assured by the Big Four accounting firms, while others use specialist sustainability assurers which are outside the accounting profession. There are also differences between companies on whether all the contents of sustainability reports are assured. Many of the large companies, including BHP Billiton, Rio Tinto and the Commonwealth Bank, have assurance on sections of their sustainability reports, and it is likely that they choose only those areas that are of great importance to their stakeholders.

As an example of the procedures performed by the engagement teams on a sustainability report, consider the following list of assurance work carried out by PricewaterhouseCoopers on the Rio Tinto *Sustainable Development Review*:

- Making enquiries of relevant management of Rio Tinto regarding the processes and controls for capturing, collating and reporting the performance data within the selected subject matter, and evaluating the design and effectiveness of these processes and controls
- Validating the operation of controls over the accuracy of injury classification and assessing the final injury classification applied for a sample of injuries reported during the year ended 31 December 2016
- Testing the arithmetic accuracy of a sample of calculations of performance data within the selected subject matter
- Assessing the appropriateness of the greenhouse gas emission factors applied in calculating the Total greenhouse gas emissions and Greenhouse gas emissions intensity
- Testing performance data, on a selective basis, substantively at both an operational and corporate level, which included testing at a selection of operations from across Aluminium, Copper & Diamonds, Energy & Minerals, and Iron Ore
- Undertaking analytical procedures over the performance data within the selected subject matter
- Making enquiries of relevant management and reviewing a sample of relevant management information and documentation supporting assertions made in the selected subject matter

Source: Rio Tinto, *2016 Annual Report*, p. 31, Independent Limited Assurance Report by PriceWaterhouseCoopers.

FOR YOUR INTEREST

A research study in Australia by Moroney, Windsor and Aw[6] found evidence that the existence of assurance was associated with enhanced quality of voluntary environmental disclosures.

Supply chain operations

Many companies are beginning to recognise that their responsibility to the environment and to society encompasses more than simply their own activities, and that the activities of their supply chain (including the various parties that supply them with goods and services) may also have an impact. This trend is evolving in response to stakeholders holding businesses to account for the activities of others within their supply chains, and the potential negative impact on their reputation and value.

For example, a particular business may face criticism from stakeholders and loss of customers if one of its suppliers is causing large-scale environmental damage in the production of its supplies. Although the selling company may have very good internal environmental practices, it may be held responsible for facilitating environmental damage as it is purchasing from the supplier responsible for that damage.

Consequently, some companies are creating codes of conduct for their supply chains, which their suppliers must follow in order to conduct business. For example, some large companies have a supplier sustainability program in place as they believe that the conduct of its suppliers can also affect its own sustainability performance and reputation. These programs often encompass sustainability areas such as corporate governance, environmental management, occupational health and safety, workforce policies and human rights, risk management, supply chain management, community and supplier diversity.

Greater integration showing valuation creation

KPMG (2017) reports that there is a trend towards reducing the clutter in annual reports and companies are providing narratives in their annual reports focusing on how they create value over the longer term.

Companies are using the principles of integrated reporting, which is defined in section 17.8 of this chapter. They report that 25 per cent of the organisations surveyed focused their reporting on value creation and not just past financial earnings.

17.7 Energy efficiency as an important example of sustainability

LO9 With rising energy costs and growing concerns over the effects of climate change, the measurement, reporting and verification of information related to energy use, greenhouse gas emissions and climate change more broadly is an increasingly common business practice. Such information is of use to a variety of stakeholders including:

- *business managers:* who set targets in an effort to manage costs
- *governments:* to inform emissions trading schemes and to assist in policy formulation and international reporting obligations
- *investors:* who seek to understand how increasing energy costs and climate change may impact business strategy, performance and prospects
- *other internal and external stakeholders:* who are interested in understanding the environmental impacts of business processes.

17.8 Integrated reporting

Is there a need for a new reporting direction?

LO10 LO11 The operating context for an organisation has changed dramatically in recent decades. An organisation faces new demands in the areas of corporate governance, accountability and transparency, especially in the wake of global financial crises. Companies are also called upon to be more socially responsible to employees, customers and the broader community. Issues such as environmental concerns, resource scarcity and population growth are emerging strategic challenges for companies. These issues are complex, far-reaching and interdependent.

In this context, the information required to assess an organisation's current performance and future prospects has changed considerably – moving beyond the scope of the traditional organisational reporting model. To meet these information needs, organisations are disclosing increasing amounts of complex information on a wide variety of topics (such as employees, corporate governance, management commentary and sustainability). Until recently, these new areas of disclosure evolved isolated from each other, considerably increasing the burden on organisations preparing these varied disclosures, and on users trying to understand them. Moreover, the linkages between different types of information (such as the link between carbon emissions and the impacts on revenues and expenses) have not always been easy to identify. Integrated reporting is emerging as a framework to support the future of reporting and to address these problems.

What is integrated reporting?

Integrated reporting is defined as:

> a process founded on integrated thinking that results in a periodic integrated report by an organization about value creation over time and related communications regarding aspects of value creation.
>
> An integrated report is a concise communication about how an organization's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value in the short, medium and long term.

As stated in the KPMG *Survey of ASX 200 Corporate Reporting 2017*:

> These organisations are better explaining how their Boards and management are focused on creating sustainable value over the short, medium and long term, and not just on short term financial earnings. They are grasping opportunities to better engage customers and employees through their reporting, as well as responding to pressure from long term investors (especially superannuation funds), governments, regulators and civil society to be more transparent in their reporting about governance, resource use and exposure, strategic performance, risk and longer term prospects.
>
> Source: KPMG Corporate Reporting 2017, A review of corporate reporting trends in the year to 30 June 2017 across the ASX 200 and beyond, pp. 2–3.

Ideally, an integrated report should become an organisation's primary reporting vehicle, combining various and disparate types of reporting, including:

- management commentary
- governance and remuneration reporting
- financial statements
- sustainability reporting.

THE PRINCIPLES OF INTEGRATED REPORTING

The International Integrated Reporting Council (IIRC) was formed in 2010 to be the international authority on integrated reporting and to build consensus and clarity around the concept. The aim was to develop a globally accepted framework for integrated reporting. The IIRC is a team that includes regulators, investors, companies, standard-setters and the accounting profession.

After extensive consultation and testing by businesses and investors from all regions of the world, the IIRC released the *International Integrated Reporting Framework* in 2013. The framework provides guiding principles and elements to develop the content of an integrated report.

To try to bring the idea of integrated reporting into reality, the IIRC has developed guiding principles to be applied by those preparing an integrated report, and to distinguish integrated reporting from previous financial reporting models. These include:

> - *Strategic focus and future orientation:* An integrated report should provide insight into the organization's strategy, and how it relates to the organization's ability to create value in the short, medium and long term, and to its use of and effects on different types of capital
> - *Connectivity of information:* An integrated report should show a holistic picture of the combination, interrelatedness and dependencies between the factors that affect the organization's ability to create value over time
> - *Stakeholder relationships:* An integrated report should provide insight into the nature and quality of the organization's relationships with its key stakeholders, including how and to what extent the organization understands, takes into account and responds to their legitimate needs and interests
> - *Materiality:* An integrated report should disclose information about matters that substantively affect the organization's ability to create value over the short, medium and long term
> - *Conciseness:* An integrated report should be concise
> - *Reliability and completeness:* An integrated report should include all material matters, both positive and negative, in a balanced way and without material error
> - *Consistency and comparability:* The information in an integrated report should be presented: (a) on a basis that is consistent over time; and (b) in a way that enables comparison with other organizations to the extent it is material to the organization's own ability to create value over time.

These principles have come about due to a desire to change the traditional financial reporting model. As outlined by the International Integrated Reporting Council, *About Integrated Reporting* 2011, some of the

limitations of the current reporting model, and how integrated reporting aims to address these limitations are discussed below.

Thinking	**Isolated**	»	**Integrated**
Because traditional reporting occurs in silos, it encourages thinking in silos. Integrated Reporting, on the other hand, reflects, and supports, integrated thinking – monitoring, managing and communicating the full complexity of the value creation process and how this contributes to success over time. Integrated Reporting demonstrates the extent to which integrated thinking is occurring within the organization.			

Stewardship	**Financial capital**	»	**All forms of capital**
An Integrated Report displays an organization's stewardship not only of financial capital, but also of the other 'capitals' (manufactured, human, intellectual, natural and social), their interdependence and how they contribute to success. This broader perspective requires consideration of resource usage and risks and opportunities along the organization's full value chain.			

Focus	**Past, financial**	»	**Past and future, connected, strategic**
Annual reporting at present is largely focused on past financial performance and financial risks. Other reports and communications may cover other resources and relationships, but they are seldom presented in a connected way, or linked to the organization's strategic objectives and its ability to create and sustain value in the future.			

Timeframe	**Short term**	»	**Short, medium and long term**
Much of the media and regulatory attention in response to the global financial crisis has focused on 'short-termism' as one contributory factor. Although short-term considerations are important in many ways, placing them in context is also essential. Integrated Reporting specifically factors in short-, medium- and long-term considerations.			

Trust	**Narrow disclosures**	»	**Greater transparency**
Financial reporting focuses primarily on a narrow series of mandated disclosures. Although an increasing number of organisations are improving their transparency, for example, through voluntary sustainability reporting, in absolute terms that number is still low. By emphasizing transparency, for example, covering a broader range of issues and disclosing the positive with the negative, Integrated Reporting helps to build trust.			

Adaptive	**Rule bound**	»	**Responsive to individual circumstances**
Today's reporting is often said to be too compliance orientated, reducing the scope for organizations to exercise an appropriate amount of judgement. While a certain level of compliance orientation is necessary to ensure consistency and enable comparison, Integrated Reporting offers a principles-based approach that drives greater focus on factors that are material to particular sectors and organizations. It permits an organization to disclose its unique situation in clear and understandable language.			

Concise	**Long and complex**	»	**Concise and material**
Long and complex reports are often impenetrable for many readers. A key objective for Integrated Reporting is to declutter the primary report so that it covers, concisely, only the most material information.			

Technology enabled	**Paper based**	»	**Technology enabled**
While the internet and XBRL are introducing elements of technological innovation, many corporate reports are still presented as if they were entirely paper based. Integrated Reporting takes advantage of new and emerging technologies to link information within the primary report and to facilitate access to further detail online where that is appropriate.			

What is driving the move towards integrated reporting?

Integrated reporting represents a significant change for our current approach to reporting. Listed below are some of the key drivers that have paved the way for the introduction of integrated reporting.

- *Internal management drivers:* One of the main drivers for this new form of reporting comes from reporting organisations themselves. Managers of many organisations have found that there are benefits available to their organisations by considering the relationships between financial and non-financial issues, and understanding the social, environmental and economic context their organisations operate in. Integrated reporting provides a platform for better understanding how value is created in their organisations and

promoting improved decision-making. Integrated reporting should also reduce the compliance burden of reporting individually to separate stakeholder groups.

- *The development of sustainability metrics and frameworks:* In response to escalating stakeholder demands for information, the disclosure of non-financial sustainability information has become increasingly common. These new approaches have provided the information and structure that have helped many organisations to explore the non-financial disclosures that are a crucial part of an integrated report.
- *Policy and regulations:* Government policy has been introduced in several countries to mandate or encourage the reporting of non-financial information, including in France, the United States, Denmark and Sweden, as well as the European Commission. In addition, several stock exchanges have voluntary or mandatory requirements to disclose non-financial information, including the Bursa Malaysia, the Singapore Stock Exchange and the Shanghai Stock Exchange. Sustainability indices and scores have also proliferated in recent years (such as the FTSE4Good), which create an additional compliance burden for listed reporting organisations. In South Africa, integrated reporting has become mandated for all companies listed on the Johannesburg Stock Exchange. Companies follow a 'comply or explain' basis, meaning that they must comply or, if they do not, they have to explain why. The result is that most companies provide the necessary information rather than facing the difficulty of explaining why the requirements are not relevant to them.

However, even considering these drivers, only 14 per cent of companies surveyed in the *KPMG Survey of Corporate Responsibility 2017* claim they publish integrated reports. While 51 per cent of companies say they include corporate responsibility information in their annual reports, for the majority of these companies the information is included in a separate section of the annual report and was therefore not considered as integrated reporting.

The content of an integrated report

The IIRC framework defines eight content elements for an integrated report. The framework does not prescribe a standard format for the report; however, it poses questions for the company, under each of the elements, to then identify what information should be reported. The eight content elements defined in the IIRC framework for integrated reporting are as follows:

- *Organizational overview and external environment:* What does the organization do and what are the circumstances under which it operates?
- *Governance:* How does the organization's governance structure support its ability to create value in the short, medium and long term?
- *Business model:* What is the organization's business model?
- *Risks and opportunities:* What are the specific risks and opportunities that affect the organization's ability to create value over the short, medium and long term, and how is the organization dealing with them?
- *Strategy and resource allocation:* Where does the organization want to go and how does it intend to get there?
- *Performance:* To what extent has the organization achieved its strategic objectives for the period and what are its outcomes in the terms of effects on the capitals?
- *Outlook:* What challenges and uncertainties is the organization likely to encounter in pursuing its strategy, and what are the potential implications for its business model and future performance?
- *Basis of presentation:* How does the organization determine what matters to include in the integrated report and how are such matters qualified or evaluated?

The National Australia Bank (NAB) *Annual Review 2017* is a document prepared on an integrated basis. NAB participated in the IIRC Integrated Reporting Pilot Programme and continues to produce integrated

reports. The 'Key Results' page of the NAB's *Annual Review 2017* (reproduced in Exhibit 17.4) highlights some of the unique parts of an integrated report

EXHIBIT 17.4 NATIONAL AUSTRALIA BANK

KEY RESULTS

14.0%
cash return on equity[1, 2]
30 basis points decrease from 2016

59%
employee engagement score[3]
compared to top quartile global benchmark of 67%

-13
priority segments net promoter score[4]
2 points increase from 2016, ranked #1 amongst major Australian banks

2017 CASH EARNINGS	A$M
Consumer Banking & Wealth	1,633
Business & Private Banking	2,841
Corporate & Institutional Banking	1,535
New Zealand Banking	882
Corporate Functions & Other	(249)

$6.64BN
cash earnings[1, 2]
2.5% increase from 2016

20.1%
total shareholder return (TSR)[5]
ranked #1 amongst major Australian banks

$5.29BN
net profit attributable to the owners of NAB
$4.93bn increase from 2016[6]

$1.98
dividend per share
consistent with 2016

514,575
low-income Australians and New Zealanders
assisted with microfinance products and services since 2005[7]

19,652
number of customers assisted
experiencing financial hardship

1 Information is presented on a continuing operations basis including prior period restatements.
2 Cash earnings is not a statutory financial measure, is not presented in accordance with Australian Accounting Standards, and is not audited or reviewed in accordance with Australian Auditing Standards. NAB's audited financial statements, prepared in accordance with the Corporations Act 2001 (Cth) and Australian Accounting Standards, are set out in NAB's 2017 Annual Financial Report. Full detail on how cash earnings is defined, a discussion of non-cash earnings items and a full reconciliation of statutory net profit attributable to owners of NAB is set out in Note 2 of NAB's 2017 Annual Financial Report. A reconciliation of cash earnings to statutory net profit attributable to the owners of NAB is also set out on page 4 of this 2017 Summary Review.
3 Source: Employee Engagement Survey conducted by Aon Hewitt. The engagement score indicates the percentage of employees at NAB that are strong advocates (SAY), demonstrate a commitment to NAB (STAY) and exert discretionary effort (STRIVE).
4 Net Promoter® and NPS® are registered trademarks and Net Promoter Score and Net Promoter System are trademarks of Bain & Company, Satmetix Systems and Fred Reichheld. Priority segments Net Promoter Score (NPS) is a simple average of the NPS of four priority segments: NAB defined Home Owners and Investors, as well as Small Business (turnover $100k-<$5m) and Medium Business (turnover $5m-<$50m). The Priority Segment NPS data is based on six month moving averages from Roy Morgan Research and DBM BFSM Research as at 30 September 2017. 30 September 2016 NPS performance has been restated to reflect the change in priority segments. The 2016 priority segments were Mortgage Customers, Debt Free, Micro Business (<$1m), Small Business ($1m-<$5m) and Medium Business ($5m-<$50m).
5 Source: IRESS. Total Shareholder Return (TSR) combines share price appreciation and dividends paid from 1 October 2016 to 30 September 2017 to show the total return expressed as a percentage.
6 The large increase in net profit attributable to owners of NAB mainly reflects the loss on CYBG demerger, provisions for conduct costs pursuant to claims under the Conduct Indemnity Deed with CYBG and the sale of 80% of Wealth's life insurance business in the 30 September 2016 full year, partially offset by provisions for conduct costs pursuant to claims under the Conduct Indemnity Deed with CYBG in the 30 September 2017 full year.
7 Delivered in partnership with Good Shepherd Microfinance (Australia) and Good Shepherd New Zealand. Cumulative data has been collected since 2005 in Australia and 2014 in New Zealand.

National Australia Bank, *Annual Review 2017*.

There are a number of points to note about the NAB's review document.

- *It is a review, not an annual report:* This document is offered in addition to the bank's *2017 Annual Financial Report* and the *2017 Sustainability Report* (which was formerly known as Dig Deeper Report and includes further details on NAB's Corporate Responsibility performance over the previous year).
- *The format is brief, concise and linked to other information:* Only the most material information about NAB is contained in the review (it is 36 pages long, compared with the 162 pages of the annual report). The review points to further metrics and information that are made freely available on the NAB website.
- *It reflects the company's strategy and mission:* This highlights page shows clearly what NAB's core mission and focus are. For NAB, preserving a financial return and maintaining cash flow and profit levels are crucial to the success of its organisation, and this is shown by highlighting these upfront. This page also shows that NAB considers issues like employee engagement, community investment and the use of renewables.

- *Non-financial metrics are included:* Not all of the key figures on this highlights page are financial in nature. Employee engagement information is a percentage, based on survey data. The figure for community investment is a financial figure, but reflects an input rather than a return.
- *The audience for this report is varied:* A variety of users could find this information useful – capital providers and those with a financial stake in the organisation, as well as employees, customers, communities and the government.
- *Metrics are linked to strategy:* Linking the organisational strategy to measurement and reporting is an important part of an integrated report. Each of the areas of these highlights is linked to a strategic focus for NAB, which is discussed in more detail later in the review.

Assurance of integrated reporting

Integrated reporting does present some challenges for the assurance profession. First, the type of information contained in an integrated report is much greater. An integrated report may include disclosures on carbon emissions, management strategies, customer satisfaction or employee engagement. These represent new areas of knowledge for accountants, with different measurement approaches, different materiality levels, and different disclosure standards and regulations.

Second, the scope and flexibility of the integrated report approach further extends the challenge for assurance providers. They will need to change their approach as companies move away from the standardised financial reporting format to a report that contains a variety of material issues that are specific to an organisation. For example, the content areas of strategy, organisational model or future plans extend the scope of a traditional assurance engagement and also present extra risks for the assurers.

The NAB *Annual Review 2017*, as shown above, has been subject to a limited assurance engagement by the audit firm Ernst & Young. This is common practice for integrated reports given the nature of the holistic performance metrics used and the complications in their measurement. In the short term, most assurance of integrated reports is likely to remain on a limited basis, as auditors and assurance providers build their experience, capacity and skills in this area.

IAASB Integrated Reporting Working Group released a discussion paper in 2016 which identifies 10 assurance challenges to integrated reports and other emerging forms of external reporting (EER). The assurance challenges include:

1. Determining the scope of an EER assurance engagement can be complex.
2. Evaluating the suitability of criteria in a consistent manner.
3. Addressing materiality for diverse information with little guidance in EER frameworks.
4. Building assertions for subject matter information of a diverse nature.
5. Lack of maturity in governance and internal control over EER reporting processes.
6. Obtaining assurance with respect to narrative information.
7. Obtaining assurance with respect to future-oriented information.
8. Exercising professional skepticism and professional judgment.
9. Obtaining the competence necessary to perform the engagement.
10. Communicating effectively in the assurance report.

IAASB Integrated Reporting Working Group, Supporting Credibility and Trust in Emerging Forms of External Reporting: Ten Key Challenges for Assurance Engagements.

These are issues presently being considered and researched by international and Australian audit and assurance standard setters, large accounting firms and academics interested in research in these areas.

PRACTICE PROBLEMS

Solutions to practice problems can be found at the end of the chapter. These problems are intended to facilitate self-study and additional practice: *don't look at the solution for any of these without giving the problem a serious try first*, because once you have seen the solution it always looks easier than it is.

PRACTICE PROBLEM A

1 What is the purpose of a sustainability report?
2 Why do companies prepare a stand-alone sustainability report?
3 What disclosures are typically included in a sustainability report?

HOMEWORK AND DISCUSSION TO DEVELOP UNDERSTANDING

This section starts with simpler discussion questions that revise some of the basic concepts, which are then followed by a set of problems.

DISCUSSION QUESTIONS

1 What types of information are missing in traditional financial reporting?
2 What are the main criticisms of traditional financial reporting?
3 Based on your accounting knowledge to date, do you think traditional financial reporting provides all the information stakeholders require? Consider your answer based on the various different stakeholder requirements.
4 What do we mean by the concept of sustainability, and why does it matter?
5 Outline the costs and benefits of preparing a sustainability report.
6 Are the stakeholders for sustainability reporting different from the stakeholders for traditional financial reporting? If you think they are, identify the different groups and explain their interests/requirements in the reports.
7 What skills do accountants have that are important in the development of sustainability reports?
8 Explain why sustainability reporting is necessary. Consider both the benefits of sustainability reporting and the drivers for sustainability reporting in your answer.
9 Identify three types of KPIs used in sustainability reports.
10 What are the six key categories used by the GRI in sustainability reports? Provide two examples for each category.
11 Explain some of the key arguments on whether sustainability reporting should be voluntary or mandatory. Provide at least two points for each side of the argument.
12 Considering the various professions involved in the assurance of sustainability reports, what are some of the key tensions surrounding this issue?
13 What skills do the accountants and non-accounting professionals provide in the assurance of sustainability reports?
14 How can supply chain management assist in raising awareness of sustainability issues? Provide examples in your answer.
15 What is integrated reporting? How is integrated reporting different from other forms of reporting?
16 Identify the drivers of integrated reporting.
17 What are the key tensions in the field concerning integrated reporting?
18 Outline your thoughts on whether integrated reporting is achievable.

19 What are some of the challenges integrated reporting must overcome?

20 Who will read an integrated report? Will all stakeholders have the same level of skills or competency to understand the integrated report?

PROBLEMS

PROBLEM 17.1

Relationship to GAAP

Do you think the kinds of accounting concepts and standards illustrated in Chapter 6 as being part of GAAP can or should apply to a company's sustainability reports? Discuss the pros and cons of such an expansion and interpretation of GAAP, based on the reasons you think companies would want to produce sustainability reports and why people would want to obtain them.

PROBLEM 17.2

Criteria

The *KPMG Survey of Corporate Responsibility Reporting 2013* notes KPMG member firms can help your organisation: 'Benchmark the quality of your reporting against industry peers' (*KPMG Survey of Corporate Responsibility Reporting 2013*, p. 80).

What criteria are likely to be used to carry out this benchmarking exercise?

PROBLEM 17.3

Assurance

International surveys indicate that many companies do not have their sustainability data and reports assured.

1 What are the benefits of having this information assured?

2 Why would this assurance not be part of the audit of the financial statements?

3 What type of assurance could be given about the sustainability information reported?

PROBLEM 17.4

Integrated reporting

Refer to Exhibit 17.4 from the National Australia Bank (NAB) integrated report (*2017 Annual Review*). If you were an employee of NAB, which pieces of information in the 'Key Results' section would you find most important? Why? Would this affect your decision to work there?

PROBLEM 17.5

Interpreting sustainability reports

Go to the following websites to examine the sustainability reports of some Australian companies:

a Telstra: http://www.telstra.com.au/aboutus/community-environment/reports/sustainability-report/

b CSL Limited: http://corporateresponsibility.csl.com.au/

c Westpac: https://www.westpac.com.au/about-westpac/sustainability/

d Commonwealth Bank: http://www.commbank.com.au/about-us/our-company/sustainability/our-approach/sustainability-reporting.aspx

e Stockland Corporation: http://stocklandcorporatereporting2014.com.au/sustainability–area.

For each company:

1 provide two key performance indicators under each of the following six headings:

  a economic
  b environment
  c labour practices and decent work
  d human rights
  e society
  f product responsibility.

2 Are GRI criteria used?
3 Was there an assurance report? If so, who was the auditor?
4 List the five main things you learned from reading each of the sustainability reports.

CASES

CASE 17A Woolworths' sustainability

Obtain the Woolworths 2014 Corporate Responsibility Report (available at http://woolworthslimited2014.csr-report.com.au/downloads).

1 List three important points the CEO makes relating to sustainability.
2 List three examples of the technology Woolworths has invested in for energy efficiency. Do they state the dollar amount invested?
3 What was Woolworths' reduction in carbon emissions for 2017?
4 What are Woolworths' sustainability metrics for 2017?
5 List three ways in which Woolworths states it reduced its emissions.
6 Was the report assured? By whom? Is the assurer an accounting firm? Does it provide recommendations it would like Woolworths to focus on?
7 What reporting framework and/or guidelines does Woolworths use to report on its corporate responsibility?

HOW'S YOUR UNDERSTANDING SOLUTIONS

17A For the company you select you should see a variety of disclosures covering environmental (e.g. energy usage) and social (e.g. labour practices, human rights).

PRACTICE PROBLEM SOLUTIONS

PRACTICE PROBLEM A

1 A sustainability report provides disclosures on an organisation's impacts on the environment, society and the economy. It assists organisations in setting goals, measuring performance and managing change in order to make their operations more sustainable.
2 Reasons companies prepare a stand-alone sustainability report would include:
- to emphasise their commitment to sustainability issues
- it allows them to provide much more detail than in the annual report
- some companies see it is beneficial to provide more summarised sustainability results in the annual report and then a separate stand-alone report for those that want more detail
- increased concern about the expanding content of the annual report and therefore a trend towards separate reports.

3 As sustainability reporting is largely voluntary, what is reported varies considerably depending on the industry involved, the needs of stakeholders and the views of management. Examples of what may be disclosed under the GRI sustainability reporting guidelines are listed in Exhibit 17.3 of the chapter. These disclosures are categorised under the headings of economic, environmental and social indicators. Some examples include:
- economic: market presence and indirect economic impacts
- environmental: energy, water and emissions
- social: labour practices, human rights, society and product responsibility.

COURSEMATE EXPRESS

WEBSITE RESOURCES

CourseMateExpress

Go to **http://login.cengagebrain.com** and use the access code that comes with this book for 12 months access to the resources and study tools for this chapter.

The CourseMate Express website contains:

- student revision quizzes
- glossary of key terms and flashcards
- and more!

NOTES

1 This chapter was jointly written by Andrew Trotman with input to an earlier edition from Sarah Adams and Tanya Fielder. Hien Hoang updated the material on sustainability criteria and integrated reporting. Useful examples were also provided by Maria Balatbat and Patricia Strong.

2 International Integrated Reporting Council, *International IR Framework*, https://integratedreporting.org/wp-content/uploads/2013/12/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf.

3 Global Reporting Initiative, *G4 Sustainability reporting guidelines – Reporting Principles and Standard Disclosures*, https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf.

4 Global Reporting Initiative, *G4 Sustainability reporting guidelines – Reporting Principles and Standard Disclosures*, https://www.globalreporting.org/resourcelibrary/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf.

5 Transurban, *2017 Sustainability Snapshot*, https://sr17.transurban.com/content/dam/sr17/FY17-sustainability-snapshot.pdf.

6 R. Moroney, C. Windsor & Y. T. Aw (2012), 'Evidence of assurance enhancing the quality of voluntary environmental disclosures: an empirical analysis', *Accounting & Finance*, 52(3), pp. 903–939.

APPENDIX

WOOLWORTHS LIMITED

2017 ANNUAL REPORT

Consolidated Statement of Profit or Loss

	NOTE	2017 $M	2016[1] $M
Continuing Operations			
Revenue from the sale of goods and services		**55,475.0**	53,473.9
Other operating revenue		**193.6**	189.8
Total operating revenue		**55,668.6**	53,663.7
Cost of sales		**(39,739.7)**	(38,538.6)
Gross profit		**15,928.9**	15,125.1
Other revenue		**244.2**	275.5
Branch expenses		**(10,671.4)**	(10,683.9)
Administration expenses		**(3,175.7)**	(3,221.8)
Earnings before interest and tax		**2,326.0**	1,494.9
Financing costs	2.2	**(193.6)**	(245.6)
Profit before income tax		**2,132.4**	1,249.3
Income tax expense	3.6	**(650.4)**	(486.4)
Profit for the period from continuing operations		**1,482.0**	762.9
Discontinued Operations			
Profit/(Loss) from discontinued operations, after tax	5.1	**111.4**	(3,110.8)
Profit/(Loss) for the period		**1,593.4**	(2,347.9)
Profit/(Loss) attributable to:			
Equity holders of the parent entity		**1,533.5**	(1,234.8)
Non-controlling interests		**59.9**	(1,113.1)
		1,593.4	(2,347.9)
Profit/(Loss) attributable to equity holders of the parent entity relates to:			
Profit from continuing operations		**1,422.1**	726.3
Profit/(Loss) from discontinued operations		**111.4**	(1,961.1)
		1,533.5	(1,234.8)

		CENTS	CENTS
Earnings Per Share (EPS) attributable to equity holders of the parent entity			
Basic EPS	4.1	**119.4**	(97.7)
Diluted EPS	4.1	**119.1**	(97.7)
EPS attributable to equity holders of the parent entity from continuing operations			
Basic EPS	4.1	**110.8**	57.5
Diluted EPS	4.1	**110.5**	57.5

1 In accordance with AASB 5 *Non-current Assets Held for Sale and Discontinued Operations*, the comparatives have been restated for discontinued operations that have arisen during the year (refer to Note 5.1).

The above Consolidated Statement of Profit or Loss should be read in conjunction with the accompanying Notes to the Consolidated Financial Statements.

Consolidated Statement of Other Comprehensive Income

	NOTE	2017 $M	2016 $M
Profit/(Loss) for the period		**1,593.4**	(2,347.9)
Other comprehensive income			
Items that may be reclassified to profit or loss			
Hedging reserve			
Movement in the fair value of cash flow hedges	4.4	**3.8**	(2.7)
Income tax effect	4.4	**1.0**	(1.7)
Foreign currency translation reserve (FCTR)			
Movement in translation of foreign operations taken to equity		**(3.9)**	207.9
Income tax effect		**(3.0)**	(24.5)
Items that will not be reclassified to profit or loss			
Equity instrument reserve			
Movement in the fair value of investments in equity securities	4.4	**2.2**	13.5
Retained earnings			
Actuarial gain/(loss) on defined benefit superannuation plans		**3.2**	(5.6)
Income tax effect		**(1.0)**	1.7
Other comprehensive income (net of tax)		**2.3**	188.6
Total comprehensive income from continuing operations		**1,480.0**	955.4
Total comprehensive income/(loss) from discontinued operations		**115.7**	(3,114.7)
Total comprehensive income/(loss) for the period		**1,595.7**	(2,159.3)
Total comprehensive income/(loss) attributable to:			
Equity holders of the parent entity		**1,535.8**	(1,046.2)
Non-controlling interests		**59.9**	(1,113.1)
		1,595.7	(2,159.3)
Total comprehensive income from continuing operations attributable to:			
Equity holders of the parent entity		**1,420.1**	918.9
Non-controlling interests		**59.9**	36.5
		1,480.0	955.4

The above Consolidated Statement of Other Comprehensive Income should be read in conjunction with the accompanying Notes to the Consolidated Financial Statements.

Consolidated Statement of Financial Position

	NOTE	2017 $M	2016 $M
Current assets			
Cash and cash equivalents	4.5	**909.4**	948.1
Trade and other receivables	3.1	**744.7**	763.9
Inventories		**4,080.4**	4,558.5
Other financial assets	3.2	**16.1**	56.0
		5,750.6	6,326.5
Assets held for sale	5.2	**1,243.6**	1,100.5
Total current assets		**6,994.2**	7,427.0
Non-current assets			
Trade and other receivables	3.1	**72.1**	85.9
Other financial assets	3.2	**506.9**	638.2
Property, plant and equipment	3.3	**8,437.5**	8,262.8
Intangible assets	3.4	**6,532.8**	6,590.6
Deferred tax assets	3.6.3	**372.3**	497.7
Total non-current assets		**15,921.6**	16,075.2
Total assets		**22,915.8**	23,502.2
Current liabilities			
Trade and other payables	3.7	**6,684.7**	6,266.1
Borrowings	4.6	**253.5**	490.7
Current tax payable		**80.9**	39.5
Other financial liabilities	3.8	**313.8**	120.3
Provisions	3.9	**1,470.6**	1,873.5
		8,803.5	8,790.1
Liabilities directly associated with assets held for sale	5.2	**20.7**	202.6
Total current liabilities		**8,824.2**	8,992.7
Non-current liabilities			
Borrowings	4.6	**2,777.0**	3,870.9
Other financial liabilities	3.8	**115.7**	179.8
Provisions	3.9	**1,010.9**	1,382.4
Other non-current liabilities	3.10	**311.9**	294.5
Total non-current liabilities		**4,215.5**	5,727.6
Total liabilities		**13,039.7**	14,720.3
Net assets		**9,876.1**	8,781.9
Equity			
Contributed equity	4.3	**5,615.0**	5,252.2
Reserves	4.4	**113.8**	93.9
Retained earnings		**3,797.2**	3,124.5
Equity attributable to equity holders of the parent entity		**9,526.0**	8,470.6
Non-controlling interests		**350.1**	311.3
Total equity		**9,876.1**	8,781.9

The above Consolidated Statement of Financial Position should be read in conjunction with the accompanying Notes to the Consolidated Financial Statements.

Consolidated Statement of Changes in Equity

2017	SHARE CAPITAL $M	SHARES HELD IN TRUST $M	RESERVES $M	RETAINED EARNINGS $M	TOTAL $M	NON-CONTROLLING INTERESTS $M	TOTAL EQUITY $M
	ATTRIBUTABLE TO EQUITY HOLDERS OF THE PARENT ENTITY						
Balance at 26 June 2016	5,347.0	(94.8)	93.9	3,124.5	8,470.6	311.3	8,781.9
Profit after income tax expense	–	–	–	1,533.5	1,533.5	59.9	1,593.4
Other comprehensive income (net of tax)	–	–	0.1	2.2	2.3	–	2.3
Total comprehensive income (net of tax)	–	–	0.1	1,535.7	1,535.8	59.9	1,595.7
Dividends paid	–	–	–	(859.6)	(859.6)	(21.5)	(881.1)
Dividends received – Treasury shares	–	–	–	2.2	2.2	–	2.2
Issue of shares under employee long-term incentive plans	–	37.1	(37.1)	–	–	–	–
Issue of shares under the dividend reinvestment plan (DRP)	316.5	–	–	–	316.5	–	316.5
Issue of shares from underwrite of DRP	55.5	–	–	–	55.5	–	55.5
Purchase of shares by the Woolworths Employee Share Trust	–	(46.3)	–	–	(46.3)	–	(46.3)
Share-based payments expense	–	–	51.6	–	51.6	–	51.6
Other	–	–	5.3	(5.6)	(0.3)	0.4	0.1
Balance at 25 June 2017	5,719.0	(104.0)	113.8	3,797.2	9,526.0	350.1	9,876.1

2016	SHARE CAPITAL $M	SHARES HELD IN TRUST $M	RESERVES $M	RETAINED EARNINGS $M	TOTAL $M	NON-CONTROLLING INTERESTS $M	TOTAL EQUITY $M
	ATTRIBUTABLE TO EQUITY HOLDERS OF THE PARENT ENTITY						
Balance at 28 June 2015	5,064.9	(155.9)	95.1	5,830.1	10,834.2	297.8	11,132.0
Loss after income tax expense	–	–	–	(1,234.8)	(1,234.8)	(1,113.1)	(2,347.9)
Other comprehensive income/(loss) (net of tax)	–	–	192.5	(3.9)	188.6	–	188.6
Total comprehensive income/(loss) (net of tax)	–	–	192.5	(1,238.7)	(1,046.2)	(1,113.1)	(2,159.3)
Dividends paid	–	–	–	(1,471.2)	(1,471.2)	(32.4)	(1,503.6)
Dividends received – Treasury shares	–	–	–	4.3	4.3	–	4.3
Issue of shares under employee long-term incentive plans	–	61.1	(61.1)	–	–	–	–
Issue of shares under the DRP	282.1	–	–	–	282.1	–	282.1
Issue of shares to non-controlling interests	–	–	–	–	–	120.0	120.0
Share-based payments expense	–	–	20.8	–	20.8	–	20.8
Reclassification of non-controlling interests for recognition of financial liability	–	–	–	–	–	886.5	886.5
Transactions with non-controlling interests	–	–	(153.4)	–	(153.4)	153.4	–
Other	–	–	–	–	–	(0.9)	(0.9)
Balance at 26 June 2016	5,347.0	(94.8)	93.9	3,124.5	8,470.6	311.3	8,781.9

The above Consolidated Statement of Changes in Equity should be read in conjunction with the accompanying Notes to the Consolidated Financial Statements.

Consolidated Statement of Cash Flows

	NOTE	2017[1] $M	2016[1] $M
Cash flows from operating activities			
Receipts from customers		**65,498.9**	65,329.8
Payments to suppliers and employees		**(61,474.8)**	(61,834.5)
Net interest paid		**(234.0)**	(289.3)
Income tax paid		**(668.1)**	(848.5)
Net cash provided by operating activities	4.5	**3,122.0**	2,357.5
Cash flows from investing activities			
Proceeds from the sale of property, plant and equipment and assets held for sale		**279.8**	722.0
Payments for property, plant and equipment – property development		**(253.2)**	(473.3)
Payments for property, plant and equipment (excluding property development)		**(1,633.6)**	(1,465.0)
Payments for intangible assets		**(23.0)**	(44.6)
Proceeds from the sale of subsidiaries and investments, net of cash disposed		**200.7**	15.0
Payments for the purchase of businesses, net of cash acquired		**(5.6)**	(22.7)
Payments for the purchase of investments		**–**	(1.3)
Dividends received		**3.5**	3.2
Net cash used in investing activities		**(1,431.4)**	(1,266.7)
Cash flows from financing activities			
Proceeds from issue of shares – underwrite of DRP		**55.5**	–
Proceeds from the issue of equity securities in subsidiary to non-controlling interest		**–**	120.0
Transactions with non-controlling interests		**–**	(12.1)
Proceeds from borrowings		**184.1**	628.5
Repayment of borrowings		**(1,406.5)**	(994.1)
Dividends paid	4.2	**(540.9)**	(1,184.8)
Dividends paid to non-controlling interests		**(21.5)**	(32.4)
Net cash used in financing activities		**(1,729.3)**	(1,474.9)
Net decrease in cash and cash equivalents		**(38.7)**	(384.1)
Effects of exchange rate changes on foreign currency		**(0.6)**	6.7
Cash and cash equivalents at start of period		**956.0**	1,333.4
Cash and cash equivalents at end of period	4.5	**916.7**	956.0

1 The above Consolidated Statement of Cash Flows includes both continuing and discontinued operations. Amounts related to discontinued operations are disclosed in Note 5.1.

The above Consolidated Statement of Cash Flows should be read in conjunction with the accompanying Notes to the Consolidated Financial Statements.

Notes to the Consolidated Financial Statements
for the year ended 25 June 2017

1 BASIS OF PREPARATION

1.1 Basis of preparation

Woolworths Limited (the 'Company') is a for-profit company which is incorporated and domiciled in Australia. The Financial Report of the Company is for the 52-week period ended 25 June 2017 and comprises the Company and its subsidiaries (together referred to as the 'Group'). The comparative period is for the 52-week period ended 26 June 2016.

The Financial Report was authorised for issue by the directors on 23 August 2017.

The Consolidated Financial Statements are presented in Australian dollars and amounts have been rounded to the nearest tenth of a million dollars unless otherwise stated, in accordance with ASIC Corporations Legislative Instrument 2016/191.

The Consolidated Financial Statements have been prepared on the historical cost basis except for financial assets at fair value through other comprehensive income, derivative assets and liabilities, and certain financial liabilities which have been measured at fair value, as explained in the accounting policies.

The accounting policies have been applied consistently to all periods presented in these financial statements, unless otherwise stated. Changes in accounting policies in the current year are included in the following Notes:

- Note 3.6 – Deferred taxes on indefinite life intangible assets; and
- Note 3.8 – Put options over non-controlling interests.

Certain comparative amounts have been reclassified to conform with the current period's presentation to better reflect the nature of the financial position and performance of the Group. The comparative financial information in the Consolidated Statement of Profit or Loss and associated Notes and the Consolidated Statement of Other Comprehensive Income have been restated for discontinued operations that have arisen during the year (refer to Note 5.1).

STATEMENT OF COMPLIANCE

The Consolidated Financial Statements of the Group are general purpose financial statements which have been prepared in accordance with the *Corporations Act 2001* (Cth), and Australian Accounting Standards and Interpretations.

Compliance with Australian Accounting Standards ensures that the Financial Report complies with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). Consequently, this Financial Report has been prepared in accordance with and complies with IFRS as issued by IASB.

1.2 Significant accounting policies

This section sets out the significant accounting policies upon which the Group's Consolidated Financial Statements are prepared as a whole and significant accounting policies not otherwise described in the Notes to the Consolidated Financial Statements. Specific accounting policies are described in their respective Notes to the Consolidated Financial Statements. This section also shows information on new accounting standards, amendments and interpretations, and whether they are effective in 2017 or later years.

1.2.1 Basis of consolidation

The Consolidated Financial Statements of the Company incorporate the assets, liabilities and results of all subsidiaries as at 25 June 2017. Subsidiaries are all entities over which the Group has control. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

Intra-group balances and transactions, and any unrealised gains and losses arising from intra-group transactions, are eliminated in preparing the Consolidated Financial Statements.

1.2.2 Revenue

Revenue is measured as the fair value of consideration received or receivable on the basis that it meets the recognition criteria set out as follows:

Sale of goods and services

Revenue is recognised when the significant risks and rewards of ownership have been transferred to the customer, when it is probable the revenue will be received and the amount of revenue can be reliably measured. Service revenue is recognised based on the stage of completion of the contract with the customer.

Notes to the Consolidated Financial Statements

1.2 Significant accounting policies (continued)

1.2.3 Cash and cash equivalents

Cash and cash equivalents comprise cash balances and call deposits with an original maturity of three months or less.

1.2.4 Inventories

Inventories are valued at the lower of cost and net realisable value.

Cost is determined on a weighted average basis and includes supplier rebates, settlement discounts and other costs incurred to bring inventory to its present condition and location for sale.

For continuing operations, net realisable value of inventory has been determined as the estimated selling price in the ordinary course of business, less estimated selling expenses. For discontinued operations, net realisable value of inventory has been determined using judgement based on the likely recovery rates in an orderly exit scenario.

As at the reporting date, all inventories are valued at cost (2016: $447.8 million held at net realisable value).

Supplier rebates

Supplier rebates represent discounts provided by suppliers. Rebates include standard discounts on the purchase of goods, discounts based on purchase or sales volumes and contributions towards promotional activity for a supplier's product.

1.2.5 Foreign currency

(i) Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The Consolidated Financial Statements are presented in Australian dollars (AUD), which is the Company's functional currency.

(ii) Transactions and balances (entities with a functional currency of AUD)

Foreign currency transactions are translated into Australian dollars using the exchange rates at the dates of the transactions. Assets and liabilities denominated in foreign currencies are translated to Australian dollars at reporting date at the following exchange rates:

FOREIGN CURRENCY AMOUNT	APPLICABLE EXCHANGE RATE
Monetary assets and liabilities	Reporting date
Non-monetary assets and liabilities measured at historical cost	Date of transaction

Foreign exchange differences arising on translation are recognised in profit or loss in the period in which they arise except:

- Exchange differences on transactions entered to hedge certain foreign currency risks (refer to Note 4.8); and
- Items noted within paragraph (iii) below.

(iii) Financial statements of foreign operations (entities with a functional currency other than AUD)

The results and financial position of foreign operations are translated to Australian dollars at the following exchange rates:

FOREIGN CURRENCY AMOUNT	APPLICABLE EXCHANGE RATE
Revenues and expenses of foreign operations	Average for the period
Assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on consolidation	Reporting date
Equity items	Historical rates

The following foreign exchange differences are recognised in other comprehensive income:

- Foreign currency differences arising on translation of foreign operations; and
- Exchange differences arising from a monetary item receivable from or payable to a foreign operation, the settlement of which is neither planned nor likely in the foreseeable future. These monetary items and related hedges are considered to form part of the net investment in a foreign operation and are reclassified into profit or loss upon disposal of the net investment.

1.2 Significant accounting policies (continued)

1.2.6 Goods and Services Tax (GST)

Revenue, expenses and assets are recognised net of GST, except where the GST incurred is not recoverable from the taxation authority, in which case the GST is recognised as part of the expense or cost of the asset.

Receivables and payables are stated with the amount of GST included. The net amounts of GST recoverable from or payable to the taxation authorities are included as a current asset or liability in the Consolidated Statement of Financial Position.

Cash flows are included in the Consolidated Statement of Cash Flows on a gross basis. The GST components of cash flows arising from investing and financing activities which are recoverable from or payable to taxation authorities are classified as operating cash flows.

1.2.7 New and amended standards adopted by the Group

The Group has adopted all relevant new and amended Accounting Standards and Interpretations issued by the Australian Accounting Standards Board (AASB) which are effective for annual reporting periods beginning on or after 27 June 2016.

None of the new standards or amendments to standards that are mandatory for the first time materially affected any of the amounts recognised in the current period or any prior period and are not likely to significantly affect future periods.

1.2.8 Issued standards and interpretations not early adopted

The table below lists the standards and amendments to standards on issue but not yet effective that were available for early adoption and were applicable to the Group. The reported results and financial position of the Group are not expected to change on adoption of any of the amendments to current standards listed below, unless stated otherwise, as they do not result in any changes to the Group's existing accounting policies. However, amendments to AASB 107 will introduce additional disclosures in respect of changes in liabilities from financing activities.

EFFECTIVE DATE	NEW STANDARDS OR AMENDMENTS	REFERENCE	NOTE
1 January 2017	*Recognition of Deferred Tax Assets for Unrealised Losses (Amendments to AASB 112)*	AASB 2016-1	
	Disclosure Initiative (Amendments to AASB 107)	AASB 2016-2	
1 January 2018	*Sale or Contribution of Assets between an Investor and its Associate or Joint Venture (Amendments to AASB 10 and AASB 128)*	AASB 2014-10 & 2015-10	
	Revenue from Contracts with Customers and the relevant amending standards	AASB 15	1.2.8 (i)
	Financial Instruments and the relevant amending standards	AASB 9 (2014)	1.2.8 (ii)
	Classification and Measurement of Share-based Payment Transactions (Amendments to AASB 2)	AASB 2016-5	
1 January 2019	*Leases*	AASB 16	1.2.8 (iii)
1 January 2021	*Insurance Contracts*	AASB 17	

(i) AASB 15 *Revenue from Contracts with Customers*

AASB 15 *Revenue from Contracts with Customers* establishes a principle-based approach for goods, services and construction contracts which requires identification of discrete performance obligations within a transaction and an associated transaction price allocation to these obligations. Revenue is recognised only when the performance obligation is satisfied and the control of goods or services is transferred, typically at the point of sale.

AASB 15 is effective for annual reporting periods beginning on or after 1 January 2018. The group will apply AASB 15 in the financial year beginning 25 June 2018. An initial assessment has been performed on existing revenue streams. Based upon this assessment, it is not expected that AASB 15 will have a material impact to the Group's Consolidated Statement of Profit or Loss. The Group is yet to conclude which transition method will be applied.

(ii) AASB 9 *Financial Instruments (2014)*

AASB 9 *Financial Instruments* is a new standard which replaces AASB 139 *Financial Instruments: Recognition and Measurement*. In previous years, the Group early adopted AASB 9 *Financial Instruments* (2009), AASB 9 (2010), and related amendments. The Group is yet to adopt AASB 9 (2014) which supersedes AASB 9 (2009) and AASB 9 (2010) and introduces a new impairment model for financial assets and a new measurement category 'fair value through other comprehensive income' for certain debt instruments.

AASB 9 (2014) is effective for annual reporting periods beginning on or after 1 January 2018. The Group will apply AASB 9 (2014) in the financial year beginning 25 June 2018. An assessment has been performed and the impact of the credit loss model will not be material to the Group. The Group does not hold any investments in debt securities at the end of the reporting period and, as a result, does not expect to be impacted by the introduction of the new measurement category.

Notes to the Consolidated Financial Statements

1.2 Significant accounting policies (continued)

1.2.8 Issued standards and interpretations not early adopted continued

(iii) AASB 16 *Leases*

AASB 16 *Leases* will replace existing accounting requirements for leases under AASB 117 *Leases*. Under current requirements, leases are classified based on their nature as either finance leases, which are recognised on the Consolidated Statement of Financial Position, or operating leases, which are not recognised on the Consolidated Statement of Financial Position. The Group's accounting for operating leases as a lessee will result in the recognition of a right-of-use (ROU) asset and an associated lease liability on the Consolidated Statement of Financial Position. The lease liability represents the present value of future lease payments, with the exception of short-term leases. An interest expense will be recognised on the lease liabilities and a depreciation charge will be recognised for the ROU assets. There will also be additional disclosure requirements under the new standard. The Group's accounting for leases as a lessor remains unchanged under AASB 16.

AASB 16 is effective for annual reporting periods beginning on or after 1 January 2019. The Group will apply AASB 16 in the financial year beginning 1 July 2019. A project has been established to ensure a high quality implementation in compliance with the accounting standard. The project has members from finance, treasury and property functions with oversight from the Chief Financial Officer. Key responsibilities of the project include setting accounting policy, finalising an impact assessment, budgeting and costing of implementation, identifying data and system requirements, and finalising the implementation plan.

As at the end of the reporting period, the Group has non-cancellable undiscounted operating lease commitments of $24,438.8 million as disclosed in Note 4.9.1. These commitments predominantly relate to its retail premises, warehousing facilities, distribution centres, and support offices which will require recognition of ROU assets and associated lease liabilities. The Group is currently assessing the impact of the new requirements on the Group's Consolidated Financial Statements; however the impact is expected to materially 'gross-up' the Group's Consolidated Statement of Financial Position impacting key financial ratios. As the project develops further, quantitative and qualitative disclosure will be provided.

1.3 Critical accounting estimates and judgements

In applying the Group's accounting policies, the directors are required to make estimates, judgements and assumptions that affect amounts reported in this Financial Report. The estimates, judgements and assumptions are based on historical experience, adjusted for current market conditions and other factors that are believed to be reasonable under the circumstances and are reviewed on a regular basis. Actual results may differ from these estimates.

The estimates and judgements which involve a higher degree of complexity or that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next period are included in the following Notes:

- Notes 3.3 and 3.4 – Estimation of useful life of assets, and carrying value of properties;
- Note 3.5 – Impairment of non-financial assets;
- Note 3.9 – Provisions including onerous leases; and
- Note 5.1 – Discontinued operations including impairments, exit liabilities and associated tax balances.

Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period; or in the period and future periods if the revision affects both current and future periods.

1.4 Individually significant items from continuing operations

2017

There are no individually significant items from continuing operations in 2017.

2016

Included in 2016 Consolidated Statement of Profit or Loss were significant expenses before tax of $958.6 million incurred outside the ordinary course of trading operations resulting from a Group-wide review of all aspects of the business. In particular, these items related to operating model and strategic changes of $154.9 million, store network optimisation and property rationalisation of $344.2 million, and General Merchandise impairment of $459.5 million. The total income tax benefit recognised from the significant expenses was $193.1 million, resulting in a $765.5 million impact on profit for the period[1].

Individually significant items relating to the impairment of Home Improvement assets and store exit costs are separately presented in Note 5.1 as the Home Improvement business has been classified as a discontinued operation.

1 Comprised of $754.7 million attributable to equity holders of the parent entity and $10.8 million attributable to non-controlling interests.

2 GROUP PERFORMANCE

2.1 Segment disclosures from continuing operations

2.1.1 Operating segment reporting

Reportable segments are identified on the basis of internal reports on the business units of the Group that are regularly reviewec by the Chief Executive Officer in order to allocate resources to the segment and assess its performance. These business units offer different products and services and are managed separately.

The Group's reportable segments are as follows:

- **Australian Food –** procurement of food products for resale to customers in Australia;
- **New Zealand Food –** procurement of food and drinks for resale to customers in New Zealand;
- **Endeavour Drinks –** procurement of drinks for resale to customers in Australia;
- **BIG W –** procurement of discount general merchandise products for resale to customers in Australia; and
- **Hotels –** provision of leisure and hospitality services including food and drinks, accommodation, entertainment and gaming in Australia.

On 18 January 2016, the Company announced that it intended to pursue an orderly prospective exit of the Home Improvement business. Consequently, the Home Improvement business has been classified as a discontinued operation (refer to Note 5.1) and this segment is not presented in the segment disclosures for 2017 and 2016.

On 24 December 2016, the Company entered into a binding agreement to sell the Petrol business to BP for $1.785 billion. Consequently, the Petrol business has been classified as a discontinued operation (refer to Note 5.1). The Petrol business was previously presented together with Australian Food and is no longer included in the segment disclosures for 2017 and 2016.

The Unallocated group consists of the Group's other operating segments that are not separately reportable as well as various support functions including property and other central overhead costs. The revenue from the sale of goods and services included in the Unallocated group relates to EziBuy and is derived from the procurement of general merchandise products for predominatel online resale to customers. The sale of EziBuy Holdings Limited and its subsidiaries was completed on 25 June 2017.

There are varying levels of integration between the Australian Food, Endeavour Drinks and Hotels reportable segments. This includes the common usage of property and services and administration functions. Inter-segment pricing is determined on an arm's length basis.

Performance is measured based on segment earnings before interest and tax (EBIT) before individually significant items (refer to Note 1.4) which is consistent with the way management monitor and report the performance of these segments.

Notes to the Consolidated Financial Statements

2.1 Segment disclosures from continuing operations (continued)

2.1.1 Operating segment reporting continued

2017	AUSTRALIAN FOOD[1] $M	NEW ZEALAND FOOD $M	ENDEAVOUR DRINKS $M	BIG W $M	HOTELS $M	UNALLOCATED[2] $M	CONSOLIDATED CONTINUING OPERATIONS $M
Revenue from the sale of goods and services	36,370.9	5,887.1	7,912.9	3,598.0	1,553.2	152.9	55,475.0
Other operating revenue	188.4	4.9	–	0.3	–	–	193.6
Inter-segment revenue	–	–	–	–	–	1,009.2	1,009.2
Segment revenue	36,559.3	5,892.0	7,912.9	3,598.3	1,553.2	1,162.1	56,677.8
Eliminations						(1,009.2)	(1,009.2)
Unallocated revenue – other[3]						244.2	244.2
Total revenue	36,559.3	5,892.0	7,912.9	3,598.3	1,553.2	397.1	55,912.8
Earnings before interest and tax[4]	1,603.1	292.3	502.5	(150.5)	232.9	(154.3)	2,326.0
Financing costs							(193.6)
Profit before income tax							2,132.4
Income tax expense							(650.4)
Profit for the period from continuing operations							1,482.0
Depreciation and amortisation[4]	561.6	110.9	75.7	76.4	105.1	107.9	1,037.6
Impairment of non-financial assets[5]	–	–	17.0	21.1	–	–	38.1
Capital expenditure[6]	917.7	182.4	116.0	31.3	112.0	481.1	1,840.5

2016	AUSTRALIAN FOOD[1] $M	NEW ZEALAND FOOD $M	ENDEAVOUR DRINKS $M	BIG W $M	HOTELS $M	UNALLOCATED[2] $M	CONSOLIDATED CONTINUING OPERATIONS $M
Revenue from the sale of goods and services	34,798.0	5,592.2	7,589.3	3,819.7	1,512.2	162.5	53,473.9
Other operating revenue	179.0	10.2	–	0.6	–	–	189.8
Inter-segment revenue	–	–	–	–	–	979.9	979.9
Segment revenue	34,977.0	5,602.4	7,589.3	3,820.3	1,512.2	1,142.4	54,643.6
Eliminations						(979.9)	(979.9)
Unallocated revenue – other[3]						275.5	275.5
Total revenue	34,977.0	5,602.4	7,589.3	3,820.3	1,512.2	438.0	53,939.2
Segment earnings/(loss) before interest, tax and significant items[4]	1,642.0	284.4	483.8	(14.9)	208.5	(157.8)	2,446.0
Significant items							(951.1)
Earnings before interest and tax							1,494.9
Financing costs							(245.6)
Profit before income tax							1,249.3
Income tax expense							(486.4)
Profit for the period from continuing operations							762.9
Depreciation and amortisation[4]	523.6	106.3	74.8	83.1	99.3	98.2	985.3
Impairment of non-financial assets[5]	66.8	19.3	–	32.5	23.3	373.9	515.8
Capital expenditure[6]	646.1	195.9	94.1	46.7	141.2	673.5	1,797.5

1 Previously reported as Australian Food and Petrol; prior period has been restated to exclude Petrol which is now a discontinued operation.
2 Revenue from the sale of goods in Unallocated group relates to EziBuy.
3 Unallocated revenue is comprised of rent and other revenue from non-operating activities across the Group.
4 Depreciation and amortisation in Unallocated group is in relation to central assets (e.g. Enterprise Resource Planning system) for which a service charge is made to the reportable operating segments and reflected in the segment earnings/loss results.
5 Refer to Note 3.5 for further detail on the impairment of non-financial assets.
6 Capital expenditure is comprised of property, plant and equipment additions and intangible asset acquisitions.

2.1 Segment disclosures from continuing operations (continued)

2.1.2 Geographical information

The table below provides information on the geographical location of revenue from continuing operations and non-current assets (excluding financial instruments, deferred tax assets and intercompany receivables). Revenue from external customers is allocated to a geography based on the location in which the sales originated. Non-current assets are allocated based on the location of the operation to which they relate.

	AUSTRALIA		NEW ZEALAND		CONSOLIDATED CONTINUING OPERATIONS	
	2017 A$M	2016 A$M	2017 A$M	2016 A$M	2017 A$M	2016 A$M
Revenue from the sale of goods and services	**49,400.9**	47,674.8	**6,074.1**	5,799.1	**55,475.0**	53,473.9
Other operating revenue	**188.7**	179.6	**4.9**	10.2	**193.6**	189.8
Other revenue	**200.9**	238.5	**43.3**	37.0	**244.2**	275.5
Revenue from external customers	**49,790.5**	48,092.9	**6,122.3**	5,846.3	**55,912.8**	53,939.2
Non-current assets	**11,873.3**	11,847.1	**3,287.3**	3,200.7	**15,160.6**	15,047.8

2.2 Financing costs from continuing operations

	2017 $M	2016 $M
Interest expense	**(231.5)**	(298.2)
Less: interest capitalised [1]	**29.9**	42.3
Other [2]	**8.0**	10.3
Total	**(193.6)**	(245.6)

1 Weighted average capitalisation rate on funds borrowed for continuing operations was 6.77% (2016: 6.75%).
2 Includes interest income and dividend income.

SIGNIFICANT ACCOUNTING POLICIES

FINANCING COSTS

Borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset (one that takes a substantial period of time to get ready for its intended use or sale) are capitalised during the period of time that is required to complete and prepare the asset for its intended use or sale.

Other borrowing costs are recognised in profit or loss in the period in which they are incurred.

3 ASSETS AND LIABILITIES

3.1 Trade and other receivables

	2017 $M	2016 $M
Current		
Trade receivables	120.9	135.4
Provision for impairment	(14.8)	(10.6)
	106.1	124.8
Other receivables	323.7	330.3
Provision for impairment	(19.3)	(21.6)
	304.4	308.7
Prepayments	334.2	330.4
Total current trade and other receivables	744.7	763.9
Non-current		
Prepayments	1.5	5.2
Other receivables	70.6	80.7
Total non-current trade and other receivables	72.1	85.9
Total	816.8	849.8

SIGNIFICANT ACCOUNTING POLICIES

TRADE AND OTHER RECEIVABLES

Trade and other receivables are recognised initially at fair value and are subsequently measured at amortised cost using the effective interest method, less an allowance for impairment. They generally have terms of up to 30 days.

IMPAIRMENT OF TRADE AND OTHER RECEIVABLES

The Group assesses at the end of each reporting period whether there is objective evidence that the Group's receivables are impaired.

The recoverable amount of the Group's receivables is calculated as the present value of estimated future cash flows, discounted at the original effective interest rate (that is, the effective interest rate computed at initial recognition of these financial assets). Receivables with a short duration are not discounted. A provision for impairment of receivables is not recognised until objective evidence is available that a loss event has occurred.

3.2 Other financial assets

	2017 $M	2016 $M
Current		
Derivatives	**16.1**	56.0
	16.1	56.0
Non-current		
Derivatives	**388.7**	529.7
Listed equity securities	**79.8**	77.3
Investments in associates	**37.8**	30.3
Other	**0.6**	0.9
	506.9	638.2
Total	**523.0**	694.2

SIGNIFICANT ACCOUNTING POLICIES

DERIVATIVES

Refer to Note 4.8 for details of derivatives.

LISTED EQUITY SECURITIES

The Group's investments in listed equity securities are designated as financial assets at 'fair value through other comprehensive income'. Investments are initially measured at fair value net of transaction costs and in subsequent periods, are measured at fair value with any change recognised in other comprehensive income. Upon disposal, the cumulative gain or loss recognised in other comprehensive income is transferred within equity.

3.3 Property, plant and equipment

2017	DEVELOPMENT PROPERTIES $M	FREEHOLD LAND, WAREHOUSE, RETAIL AND OTHER PROPERTIES $M	LEASEHOLD IMPROVEMENTS $M	PLANT AND EQUIPMENT $M	TOTAL[4] $M
Cost	519.0	1,435.4	3,135.1	14,015.4	19,104.9
Less: accumulated depreciation/amortisation	(1.3)	(117.8)	(1,438.9)	(9,109.4)	(10,667.4)
Carrying amount at end of period	517.7	1,317.6	1,696.2	4,906.0	8,437.5
Movement:					
Carrying amount at start of period	356.7	1,319.5	1,795.5	4,791.1	8,262.8
Additions	198.3	113.5	228.5	1,322.2	1,862.5
Acquisition of businesses	–	2.6	–	0.1	2.7
Disposals[1]	(6.3)	(39.0)	(18.7)	(47.1)	(111.1)
Transfer from/(to) assets held for sale[2]	51.5	(146.2)	(139.5)	(276.9)	(511.1)
Disposal of business	–	–	0.3	–	0.3
Depreciation expense[3]	(0.1)	(24.8)	–	(845.9)	(870.8)
Amortisation expense[3]	–	–	(172.1)	–	(172.1)
Impairment expense	–	–	2.0	(23.1)	(21.1)
Transfers and other	(83.1)	89.0	(0.9)	(18.7)	(13.7)
Effect of movements in foreign exchange rates	0.7	3.0	1.1	4.3	9.1
Carrying amount at end of period	517.7	1,317.6	1,696.2	4,906.0	8,437.5

1 Net loss on disposal and write off of property, plant and equipment during the year from continuing operations was $46.6 million.
2 Includes transfer of Home Improvement properties from assets held for sale.
3 Includes $23.3 million relating to discontinued operations.
4 Includes an accumulated provision for impairment of $258.8 million (2016: $193.3 million).

Notes to the Consolidated Financial Statements

3.3 Property, plant and equipment (continued)

2016	DEVELOPMENT PROPERTIES $M	FREEHOLD LAND, WAREHOUSE, RETAIL AND OTHER PROPERTIES $M	LEASEHOLD IMPROVEMENTS $M	PLANT AND EQUIPMENT $M	TOTAL $M
Cost	358.3	1,435.5	3,269.6	13,937.0	19,000.4
Less: accumulated depreciation/amortisation	(1.6)	(116.0)	(1,474.1)	(9,145.9)	(10,737.6)
Carrying amount at end of period	356.7	1,319.5	1,795.5	4,791.1	8,262.8
Movement:					
Carrying amount at start of period	927.9	2,345.7	1,798.0	4,990.5	10,062.1
Additions	343.9	69.5	241.6	1,187.4	1,842.4
Acquisition of businesses	–	1.3	–	1.9	3.2
Disposals [1]	(47.3)	(44.7)	(21.7)	(19.0)	(132.7)
Transfer to assets held for sale	(268.6)	(501.0)	(7.6)	(65.5)	(842.7)
Depreciation expense [2]	(0.5)	(48.1)	–	(836.7)	(885.3)
Amortisation expense [2]	–	–	(167.5)	–	(167.5)
Impairment expense	(183.2)	(900.6)	(55.2)	(494.1)	(1,633.1)
Transfers and other	(419.1)	386.9	–	(5.3)	(37.5)
Effect of movements in foreign exchange rates	3.6	10.5	7.9	31.9	53.9
Carrying amount at end of period	356.7	1,319.5	1,795.5	4,791.1	8,262.8

1 Net loss on disposal and write off of property, plant and equipment during the year from continuing operations was $24.0 million.
2 Includes $89.3 million relating to discontinued operations.

SIGNIFICANT ACCOUNTING POLICIES

CARRYING VALUE

The Group's property, plant and equipment are measured at cost less accumulated depreciation/amortisation and accumulated impairment losses. The cost of self-constructed assets includes the cost of materials, direct labour and a proportion of overheads. The cost of development properties (those being constructed or developed for future use) includes borrowing, holding and development costs until the asset is complete.

DEPRECIATION

Assets are depreciated on a straight-line basis over their estimated useful lives. Leasehold improvements are amortised over the shorter of the remaining period of the individual leases or the estimated useful life of the improvement to the Group. Useful lives are reassessed each period. Where parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate assets.

The expected useful lives are as follows:

Buildings	25 – 40 years
Plant and equipment	2.5 – 10 years
Leasehold improvements	Up to a maximum of 25 years (retail properties) or 40 years (hotels)

PROCEEDS FROM SALE OF ASSETS

The gross proceeds from asset sales are recognised at the date that an unconditional contract of sale is exchanged with the purchaser. The net gain/(net loss) is recognised in the Consolidated Statement of Profit or Loss.

IMPAIRMENT

Property, plant and equipment are tested for impairment in accordance with the policy for impairment of non-financial assets disclosed in Note 3.5.

In 2016, Home Improvement assets were transferred to assets held for sale after impairment recognised in that year.

3.3 Property, plant and equipment (continued)

CRITICAL ACCOUNTING ESTIMATES

ESTIMATION OF USEFUL LIFE OF ASSETS
Estimates of remaining useful lives require significant management judgement and are reviewed at least annually. Where useful lives are changed, the net written-down value of the asset is depreciated or amortised from the date of the change in accordance with the revised useful life. Depreciation recognised in prior financial years is not changed.

CARRYING VALUE OF PROPERTIES
An assessment of the carrying amount of the Group's freehold properties as at 25 June 2017 was performed. The basis of the assessment was a combination of external market assessments and/or valuations and internal value in use (VIU) assessments. External valuations are obtained every three years.

3.4 Intangible assets

3.4.1 Carrying amounts of and movements in intangible assets

2017	GOODWILL $M	BRAND NAMES $M	LIQUOR, GAMING LICENCES AND OTHER $M	TOTAL $M
Cost	4,319.9	256.5	2,263.0	6,839.4
Less: accumulated amortisation	(103.5)	(0.8)	(202.3)	(306.6)
Carrying amount at end of period	4,216.4	255.7	2,060.7	6,532.8
Movement:				
Carrying amount at start of period	4,249.6	253.9	2,087.1	6,590.6
Acquisition of businesses	–	–	2.4	2.4
Other acquisitions	–	–	7.5	7.5
Disposals, transfers and other	(43.4)	0.1	(11.7)	(55.0)
Amortisation	–	0.1	(18.1)	(18.0)
Impairment	(9.5)	–	(7.5)	(17.0)
Effect of movements in foreign exchange rates	19.7	1.6	1.0	22.3
Carrying amount at end of period	4,216.4	255.7	2,060.7	6,532.8

2016	GOODWILL $M	BRAND NAMES $M	LIQUOR, GAMING LICENCES AND OTHER $M	TOTAL $M
Cost	4,343.6	285.4	2,319.5	6,948.5
Less: accumulated amortisation	(94.0)	(31.5)	(232.4)	(357.9)
Carrying amount at end of period	4,249.6	253.9	2,087.1	6,590.6
Movement:				
Carrying amount at start of period	4,438.5	272.5	2,145.8	6,856.8
Acquisition of businesses	5.7	–	13.6	19.3
Other acquisitions	–	–	8.7	8.7
Disposals, transfers and other	4.3	–	(0.6)	3.7
Amortisation[1]	–	–	(23.1)	(23.1)
Impairment	(350.9)	(30.6)	(57.9)	(439.4)
Effect of movements in foreign exchange rates	152.0	12.0	0.6	164.6
Carrying amount at end of period	4,249.6	253.9	2,087.1	6,590.6

1 Includes $1.3 million relating to discontinued operations (refer to Note 5.1).

Notes to the Consolidated Financial Statements

3.4 Intangible assets (continued)

3.4.2 Allocation of indefinite life intangible assets to groups of cash-generating units

	GOODWILL		BRAND NAMES		LIQUOR, GAMING LICENCES AND OTHER	
	2017 $M	2016 $M	2017 $M	2016 $M	2017 $M	2016 $M
Australian Food[1]	**360.2**	360.2	**0.1**	0.1	**–**	–
New Zealand Food	**2,180.8**	2,159.3	**248.6**	246.8	**–**	–
Endeavour Drinks[2]	**510.2**	530.6	**7.0**	7.0	**271.9**	269.0
ALH Group	**1,164.9**	1,164.9	**–**	–	**1,697.3**	1,702.0
Petrol[1]	**–**	34.3	**–**	–	**–**	0.2
Unallocated	**0.3**	0.3	**–**	–	**–**	–
	4,216.4	4,249.6	**255.7**	253.9	**1,969.2**	1,971.2

1 The goodwill attributable to Petrol was previously included within Australian Food and Petrol. In 2017, the goodwill balance is held for sale (refer to Note 5.2).
2 Excludes ALH owned retail sites, which are included in ALH Group.

SIGNIFICANT ACCOUNTING POLICIES

GOODWILL
Goodwill represents the excess of the cost of an acquisition over the fair value of the share of the net identifiable assets acquired. Following initial recognition, goodwill is measured at cost less any accumulated impairment losses.

OTHER INTANGIBLE ASSETS
Other intangible assets are measured at cost less accumulated amortisation and impairment losses (if any). Where acquired in a business combination, cost represents the fair value at the date of acquisition.

Intangible assets with finite lives are amortised on a straight-line basis over their estimated useful lives. Useful lives are reassessed each period. The useful lives of intangible assets have been assessed as follows:

Brand names	Generally indefinite useful life
Liquor and gaming licences	Indefinite useful life
Victorian gaming entitlements	Life of the gaming entitlement (10 years)
Other (primarily customer relationships and property development rights)	Indefinite and finite up to 20 years

IMPAIRMENT
Intangible assets are tested for impairment in accordance with the policy for impairment of non-financial assets disclosed in Note 3.5.

CRITICAL ACCOUNTING ESTIMATES

ESTIMATION OF USEFUL LIFE OF ASSETS
Assessments of useful lives and estimates of remaining useful lives require significant management judgement. Brand names are generally assessed as having an indefinite useful life on the basis of brand strength, ongoing expected profitability and continuing support. Brand names incorporate complementary assets such as store formats, networks and product offerings. Liquor and gaming licences (excluding Victorian gaming entitlements) have been assessed to have an indefinite useful life on the basis that the licences are expected to be renewed in line with ongoing regulatory requirements.

3.5 Impairment of non-financial assets

The following impairments/(reversals of impairments) were recognised during 2017:

2017	CONTINUING OPERATIONS $M	DISCONTINUED OPERATIONS $M	TOTAL $M
Property, plant and equipment	21.1	–	21.1
Assets held for sale	–	(23.7)	(23.7)
Intangible assets	17.0	–	17.0
Total impairment/(reversal of impairment)	38.1	(23.7)	14.4

The following impairments were recognised during 2016:

2016	CONTINUING OPERATIONS $M	DISCONTINUED OPERATIONS $M	TOTAL $M
Property, plant and equipment	195.8	1,437.3	1,633.1
Assets held for sale	–	46.4	46.4
Intangible assets	320.0	119.4	439.4
Total impairment	515.8	1,603.1	2,118.9

Continuing operations

During the year ended 25 June 2017, a charge of $35.3 million has been recorded in branch expenses, $21.1 million of which relates to impairment of store property, plant and equipment, and $14.2 million relating to provisions for onerous leases in respect of BIG W's undiscounted lease commitments of approximately $3.0 billion. Refer to the 'critical accounting estimates' for further detail on the impairment assessment for BIG W.

During the year an impairment of $20.7 million was recorded in relation to Summergate, $17.0 million of which relates to impairment of intangibles, and $3.7 million relates to impairment of trade and other receivables.

Discontinued operations

On 18 January 2016, the Company announced its planned exit from the Home Improvement market. The recoverable amounts of the assets in the Home Improvement business have been re-assessed at 25 June 2017. Valuations of property assets included in the Home Consortium transaction were determined with regard to the financial impact of the transaction. Valuations of property assets excluded from the transaction were determined with regard to the Group's asset disposal strategy and investment yields reflective of the characteristics and location of the individual properties based on management's best estimate of the expected net proceeds. The resulting reversal of impairment of assets held for sale of $23.7 million has been included within 'Loss from discontinued operations' during the financial year ended 25 June 2017. Refer to Note 5.1, Note 5.2 and Note 6.5 for further details.

SIGNIFICANT ACCOUNTING POLICIES

IMPAIRMENT OF NON-FINANCIAL ASSETS

The carrying amounts of the Group's property, plant and equipment (refer to Note 3.3), goodwill and intangible assets (refer to Note 3.4) are reviewed for impairment as follows:

Property, plant and equipment and finite life intangibles	When there is an indication that the asset may be impaired (assessed at least each reporting date) or when there is an indication that a previously recognised impairment may have changed
Goodwill and indefinite life intangibles	At least annually and when there is an indication that the asset may be impaired

Notes to the Consolidated Financial Statements

3.5 Impairment of non-financial assets (continued)

SIGNIFICANT ACCOUNTING POLICIES CONTINUED

CALCULATION OF RECOVERABLE AMOUNT

In assessing impairment, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any).

The recoverable amount of an asset is the greater of its value in use (VIU) and its fair value less costs to dispose (FVLCTD). For an asset that does not generate largely independent cash inflows, recoverable amount is assessed at the cash generating unit (CGU) level, which is the smallest group of assets generating cash inflows independent of other CGUs that benefit from the use of the respective asset. Goodwill is allocated to those CGUs or groups of CGUs that are expected to benefit from the business combination in which the goodwill arose, identified according to operating segments and grouped at the lowest levels for which goodwill is monitored for internal management purposes.

An impairment loss is recognised whenever the carrying amount of an asset or its CGU exceeds its recoverable amount. Impairment losses are recognised in the Consolidated Statement of Profit or Loss.

Impairment losses recognised in respect of a CGU will be allocated first to reduce the carrying amount of any goodwill allocated to the CGU and then to reduce the carrying amount of other assets in the CGU on a pro-rata basis to their carrying amounts.

REVERSAL OF IMPAIRMENT

An impairment loss in respect of goodwill is not reversed. In respect of other assets, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

CRITICAL ACCOUNTING ESTIMATES

Key assumptions used in determining the recoverable amount of assets include expected future cash flows, long-term growth rates (terminal value assumptions) and discount rates.

In assessing VIU, estimated future cash flows are based on the Group's most recent board approved business plan covering a period not exceeding five years. Cash flows beyond the approved business plan period are extrapolated using estimated long-term growth rates.

Long-term growth rates are based on past experience, expectations of external market operating conditions, and other assumptions which take account of the specific features of each business unit. Long-term growth rates do not exceed industry growth rates for the business in which the CGU operates.

The recoverable amount has been determined using a VIU discounted cash flow model. In assessing VIU, the estimated future pre-tax cash flows are discounted to their present value using a pre-tax discount rate that reflects the current market assessments of the time value of money and risks specific to the asset. Pre-tax discount rates used vary depending on the nature of the business and the country of operation.

The ranges of rates used in determining recoverable amounts are set out below:

	2017 %	2016 %
Long-term growth rate	2.5	0.5 – 2.5
Pre-tax discount rate	13 – 17.3	13 – 16.5

The Group believes that any reasonably possible change in the key assumptions applied would not cause the carrying value of assets to exceed their recoverable amount and result in a material impairment based on current economic conditions and CGU performance.

3.5 Impairment of non-financial assets (continued)

CRITICAL ACCOUNTING ESTIMATES CONTINUED

BIG W

As disclosed in the half year ended 1 January 2017, the BIG W business was assessed for impairment using the assumptions included in the business turnaround strategy at that time. As a result, an impairment charge of $35.3 million was recognised for store asset impairments and onerous lease provisions on certain underperforming stores.

During the second half of the fiscal year, the board formally approved the revised BIG W turnaround plan. This has been used as the basis for the value in use (VIU) discounted cash model used for determining the recoverable amount of BIG W. The turnaround plan assumes improvements in BIG W's operating and financial performance as well as working capital improvements over a five-year period. At 25 June 2017, the recoverable amount of the business is higher than its carrying amount of $514.3 million (2016: $555.2 million). Consistent with the half year ended 1 January 2017, management has applied a long-term terminal growth rate of 2.5% and a pre-tax discount rate of 14.3% (post-tax of 10%).

The impairment assessment incorporates the planned outcomes of the key initiatives underpinning the turnaround plan and is expected to be implemented over a number of years. A key element of the turnaround plan includes investing across future periods to improve BIG W's market position and to deliver an improved customer value proposition. As a result, the business is expected to initially remain loss making before returning to profitability and achieving sustained growth in the later years of the turnaround plan.

There are a number of risks and uncertainties associated with the execution of the BIG W turnaround plan, including adverse changes in trading conditions, the competitive landscape, and the inability of BIG W to execute the multi-year plan in line with the assumptions made. The assessment of the recoverable amount represents management's best estimate of the recovery of BIG W over the next five years, taking into account risks, uncertainties and opportunities for improvement in the business. Management will continue to reassess the progress of the BIG W business against these estimates and it is possible that the Company may require further asset impairments and onerous lease provisions in relation to the BIG W store and support network in future periods.

Sensitivity analysis was performed to determine the impact on the recoverable amount of reasonably possible changes in key assumptions. Consequently, with all other assumptions remaining the same, a 125 basis point increase in the post-tax discount rate or a 20% reduction in the forecast EBIT that drives the terminal value would result in a 45% reduction to the available headroom.

Notes to the Consolidated Financial Statements

3.6 Income taxes

3.6.1 Income tax recognised in the Consolidated Statement of Profit or Loss

	2017 $M	2016 $M
Income tax expense		
Current tax expense	**729.9**	796.6
Adjustments recognised in the current year in relation to the current tax of prior years	**(11.6)**	1.2
Deferred tax relating to the origination and reversal of temporary differences	**119.4**	(383.4)
	837.7	414.4
Income tax expense is attributable to:		
Profit from continuing operations (as reported in the Consolidated Statement of Profit or Loss)	**650.4**	486.4
Profit/(Loss) from discontinued operations (refer to Note 5.1)	**187.3**	(72.0)
	837.7	414.4

3.6.2 Reconciliation between tax expense and profit before income tax

	2017 $M	2016 $M
Profit before income tax expense – continuing operations	**2,132.4**	1,249.3
Profit/(Loss) before income tax expense – discontinued operations (refer to Note 5.1)	**298.7**	(3,182.8)
Profit/(Loss) before income tax expense	**2,431.1**	(1,933.5)
Income tax expense/(benefit) using the Australian corporate tax rate of 30%	**729.3**	(580.0)
Tax effect of amounts which are not deductible/(taxable) in calculating taxable income:		
Non-deductible expenses	**96.2**	27.6
Non-deductible impairment expense	**5.1**	723.6
Tax losses no longer able to be carried forward as a deferred tax asset	**–**	182.5
Unrecognised tax losses from the current year	**24.4**	74.6
Impact of differences in offshore tax rates	**(5.0)**	(4.7)
Other	**(0.7)**	(10.4)
	849.3	413.2
Adjustments relating to prior years	**(11.6)**	1.2
Income tax expense	**837.7**	414.4

3.6 Income taxes (continued)

3.6.3 Deferred tax balances recognised in the Consolidated Statement of Financial Position

2017	OPENING BALANCE $M	CREDITED/(CHARGED) TO INCOME $M	CREDITED/(CHARGED) TO OCI $M	TRANSFERS TO ASSETS HELD FOR SALE $M	CLOSING BALANCE $M
Deferred tax assets					
Property, plant and equipment	123.8	(15.3)	–	0.6	109.1
Provisions and accruals	1,004.2	(104.2)	(1.0)	(2.0)	897.0
Cash flow hedges	27.6	–	1.0	–	28.6
Unrealised foreign exchange differences	(38.3)	(0.5)	(3.0)	–	(41.8)
Other	6.8	(2.2)	0.5	–	5.1
	1,124.1	(122.2)	(2.5)	(1.4)	998.0
Deferred tax liabilities					
Intangible assets	(626.3)	–	–	–	(626.3)
Prepayments	(3.6)	(0.5)	–	–	(4.1)
Other	3.5	3.3	–	(2.1)	4.7
	(626.4)	2.8	–	(2.1)	(625.7)
Net deferred tax asset/(liability)	497.7	(119.4)	(2.5)	(3.5)	372.3

2016	OPENING BALANCE $M	CREDITED/(CHARGED) TO INCOME $M	CREDITED/(CHARGED) TO OCI $M	TRANSFERS TO ASSETS HELD FOR SALE $M	CLOSING BALANCE $M
Deferred tax assets					
Property, plant and equipment	51.5	72.7	–	(0.4)	123.8
Provisions and accruals	556.4	455.7	1.7	(9.6)	1,004.2
Cash flow hedges	29.3	–	(1.7)	–	27.6
Unrealised foreign exchange differences	(14.1)	0.3	(24.5)	–	(38.3)
Tax losses (revenue)	182.5	(182.5)	–	–	–
Other	3.7	3.1	–	–	6.8
	809.3	349.3	(24.5)	(10.0)	1,124.1
Deferred tax liabilities					
Intangible assets	(626.3)	–	–	–	(626.3)
Prepayments	(3.8)	(0.1)	–	0.3	(3.6)
Other	(36.5)	34.2	2.0	3.8	3.5
	(666.6)	34.1	2.0	4.1	(626.4)
Net deferred tax asset/(liability)	142.7	383.4	(22.5)	(5.9)	497.7

3.6 Income taxes (continued)

SIGNIFICANT ACCOUNTING POLICIES

Income tax in the Consolidated Statement of Profit or Loss for the period presented comprises current and deferred tax.

CURRENT TAX
Income tax payable represents the amount expected to be paid to taxation authorities on taxable income for the period, using tax rates enacted or substantively enacted at the reporting date and any adjustment to tax payable in respect of previous years.

DEFERRED TAX
Deferred tax is calculated using the balance sheet method, providing for temporary differences between the carrying amounts of assets and liabilities for financial reporting and taxation purposes. Deferred tax is measured at the rates that are expected to apply in the period in which the liability is settled or asset realised, based on tax rates enacted or substantively enacted at the reporting date.

Deferred tax assets and liabilities are not recognised if the temporary difference arises from the initial recognition (other than in a business combination) of assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit or in relation to the initial recognition of goodwill.

A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the deductible temporary differences or unused tax losses and tax offsets can be utilised. Deferred tax assets are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

Deferred tax assets and liabilities are offset when they relate to income taxes levied by the same taxation authority and the Group intends to settle its current tax assets and liabilities on a net basis.

Income tax is recognised in the Consolidated Statement of Profit or Loss except to the extent that it relates to items recognised in other comprehensive income or directly in equity, in which case, the tax is also recognised in other comprehensive income or directly in equity, respectively.

Deferred taxes on indefinite life intangible assets
In November 2016, the IFRS Interpretations Committee (IC) published a summary of its discussions following a request to clarify how an entity determines the expected manner of recovery of an intangible asset with an indefinite useful life for the purpose of measuring deferred taxes in accordance with IAS 12 – Income Taxes. The IC noted that the fact that an entity does not amortise an intangible asset with an indefinite useful life does not mean that it has an infinite life and that the entity will recover the carrying amount of that asset only through sale and not through use.

The benefit of intangible assets with an indefinite useful life will flow to the Company on an annual basis, therefore the carrying amount will be recovered through use. In response to this clarification, the Company retrospectively changed its accounting policy for the deferred tax liabilities recorded in relation to these intangibles assets.

The following table summarises the impact of this change in accounting policy on the Consolidated Statement of Financial Position. This change did not have an impact on the 2016 comparative figures reported in the Consolidated Statement of Profit or Loss or Consolidated Statement of Other Comprehensive Income and Consolidated Statements of Cash Flows.

INCREASE/(DECREASE) OF PREVIOUSLY REPORTED BALANCES	NOTE	2016 $M
Goodwill	3.4	612.3
Deferred tax liabilities	3.6.3	612.3

TAX CONSOLIDATION
The Company and its wholly-owned Australian resident entities formed a tax consolidated group with effect from 1 July 2002. Woolworths Limited is the head entity of the tax consolidated group and has assumed the current tax liabilities of the members in the tax consolidated group.

Tax expense/income, deferred tax assets and deferred tax liabilities arising from temporary differences of the members of the tax consolidated group are recognised by each subsidiary where the subsidiary would have been able to recognise the deferred tax asset or deferred tax liability on a standalone basis.

3.6 Income taxes (continued)

SIGNIFICANT ACCOUNTING POLICIES CONTINUED

TAX CONSOLIDATION CONTINUED

The members of the tax consolidated group have entered into a tax funding agreement with the Company which sets out the funding obligations in respect of income tax amounts. The agreement requires payments by the subsidiary to the Company equal to the income tax liability assumed by the Company. The Company is required to make payment to the subsidiary equal to the current tax asset assumed by the Company.

In respect of carried-forward tax losses brought into the group on consolidation by subsidiary members, the Company will pay the subsidiary member for such losses when these losses are transferred to the tax consolidated group, where the subsidiary member would have been entitled to recognise the benefit of these losses on a standalone basis.

Income tax expense of $68.0 million (2016: $89.6 million) was charged by the Company to subsidiaries during the period through at-call intercompany accounts.

3.7 Trade and other payables

	2017 $M	2016 $M
Trade payables	**5,068.2**	4,809.1
Accruals	**1,418.7**	1,278.7
Unearned income	**197.8**	178.3
	6,684.7	6,266.1

3.8 Other financial liabilities

	2017 $M	2016 $M
Current		
Gaming entitlement liability	**–**	9.0
Derivatives	**63.0**	109.4
Put option held over non-controlling interest in Hydrox Holdings Pty Ltd	**250.8**	–
Other	**–**	1.9
	313.8	120.3
Non-current		
Derivatives	**115.7**	148.9
Other	**–**	30.9
	115.7	179.8
Total	**429.5**	300.1

Put option over non-controlling interest in Hydrox Holdings Pty Ltd (Hydrox)

As at 25 June 2017, the Company owned 66.7% of Hydrox with the remaining 33.3% held by a subsidiary of Lowe's Companies, Inc. (Lowe's). As part of the terms of the Joint Venture Agreement (JVA) between the parties, Lowe's held a put option, which became exercisable after 20 October 2015. On 16 January 2016, Lowe's issued a notice setting an exercise date for the option triggering a 13-month notice period after which the option could be exercised. On 18 January 2016, Woolworths announced that it intended to exercise its call option over Lowe's 33.3% interest in Hydrox. On 16 February 2016, the Company provided Lowe's with a notice of exercise of its call option.

The Group has valued the put option liability as at 25 June 2017 at $250.8 million as a result of the payment to Lowe's on 4 August 2017 for the acquisition of their 33.3% shareholding (refer to Note 6.5 for further details).

3.8 Other financial liabilities (continued)

SIGNIFICANT ACCOUNTING POLICIES

DERIVATIVES
Refer to Note 4.8 for details on derivatives.

PUT OPTIONS OVER NON-CONTROLLING INTERESTS
Put options held by non-controlling interests are measured at fair value.

In 2016 the fair value of the put option in Hydrox of $nil was determined with reference to the valuation provided to the Company by the independent expert it appointed in accordance with the process outlined in the JVA. The Group's accounting policy was to recognise changes in the fair value of put options over non-controlling interests directly in equity within general reserves, as these related to a transaction with a non-controlling interest.

In 2017 the change in valuation of the put option liability during the period has been charged to the Consolidated Statement of Profit or Loss. This change results in the Group's accounting policy being more consistent with the substance of the Home Improvement exit.

The change in accounting policy has been applied in the current year as the impact to the prior year is not considered material to the Group. If the change in accounting policy had been applied retrospectively, the prior year charge to General Reserve of $153.4 million would have been reflected in the 2016 Consolidated Statement of Profit or Loss increasing the total loss for the period from $2,347.9 million to $2,501.3 million.

3.9 Provisions

	2017 $M	2016 $M
Current		
Employee benefits	**915.0**	902.4
Self-insured risks	**178.6**	170.3
Restructuring, onerous contracts, store exit costs and other	**377.0**	800.8
	1,470.6	1,873.5
Non-current		
Employee benefits	**172.4**	165.4
Self-insured risks	**415.3**	439.5
Restructuring, onerous contracts, store exit costs and other	**423.2**	777.5
	1,010.9	1,382.4
Total	**2,481.5**	3,255.9

Movements in total self-insured risks, restructuring, onerous contracts, store exit costs, and other provisions

	SELF-INSURED RISKS		RESTRUCTURING, ONEROUS CONTRACTS, STORE EXIT COSTS, AND OTHER	
	2017	2016	2017	2016
Movement:				
Balance at start of period	**609.8**	597.7	**1,578.3**	69.7
Additional provisions recognised/(reversed)	**141.1**	160.4	**(571.9)**	1,705.3
Reductions arising from payments	**(151.3)**	(141.6)	**(309.1)**	(173.9)
Other	**(5.7)**	(7.0)	**61.7**	(24.5)
Arising from the disposal of controlled entities	**–**	–	**41.0**	–
Effect of movements in foreign exchange rates	**–**	0.3	**0.2**	1.7
Balance at end of period	**593.9**	609.8	**800.2**	1,578.3
Current	**178.6**	170.3	**377.0**	800.8
Non-current	**415.3**	439.5	**423.2**	777.5

3.9 Provisions (continued)

SIGNIFICANT ACCOUNTING POLICIES

A provision is recognised when the Group has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of economic benefits will be required to settle the obligation, and a reliable estimate can be made as to the amount of the obligation. The amount recognised is the best estimate of the consideration required to settle the present obligation at the reporting date, taking into account the risks and uncertainties surrounding the obligation.

EMPLOYEE BENEFITS

A liability is recognised for benefits accruing to employees in respect of annual leave and long service leave.

Liabilities expected to be settled within 12 months are measured at their nominal values using the remuneration rate expected to apply at the time of settlement.

Liabilities which are not expected to be settled within 12 months are measured as the present value of the estimated future cash outflows to be made by the Group in respect of services provided by employees up to the reporting date.

SELF-INSURANCE

The provision for self-insured risks primarily represents the estimated liability for workers' compensation and public liability claims.

RESTRUCTURING

Provision for restructuring is recognised when the Group has developed a detailed formal plan for the restructuring and has raised a valid expectation in those affected by the restructuring that the restructuring will occur.

ONEROUS CONTRACTS AND STORE EXIT COSTS

An onerous contract is a contract in which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it. The unavoidable costs under a contract reflect the least net cost of exiting from the contract, which is the lower of the cost of fulfilling it and any compensation or penalties arising from failure to fulfil it.

CRITICAL ACCOUNTING ESTIMATES

DISCOUNT RATES

Where a provision is measured using the cash flows estimated to settle the obligation, the cash flows are discounted using a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. Rates are reviewed periodically and given the nature of the estimate, reasonably possible changes are not considered likely to have a material impact.

EMPLOYEE BENEFITS ASSUMPTIONS

In estimating the value of employee benefits, consideration is given to expected future salary and wage levels (including on-cost rates), experience of employee departures and periods of service. The assumptions are reviewed periodically and given the nature of the estimate, reasonably possible changes in assumptions are not considered likely to have a material impact.

ACTUARIAL ASSUMPTIONS

Self-insurance provisions are determined based on independent actuarial assessments, which consider numbers, amounts and duration of claims, and allow for future inflation and investment returns. Allowance is included for injuries which occurred before the balance sheet date, but where the claim is expected to be notified after the reporting date. The assumptions are reviewed periodically and given the nature of the estimate, reasonably possible changes in assumptions are not considered likely to have a material impact

3.9 Provisions (continued)

CRITICAL ACCOUNTING ESTIMATES CONTINUED

RESTRUCTURING, ONEROUS CONTRACTS, AND STORE EXIT COSTS

The Group has recognised a provision for store closures and onerous leases based on the lower of the estimated unavoidable net costs of meeting all leases and other obligations under the stores and associated contracts, and management's best estimate of the compensation expected to be payable to landlords and other third parties as a result of early termination of contracts. Estimates differ depending on the rent, location, the respective lease exit terms, and management's assessment of the timing and likely termination costs.

The estimates and judgements applied with respect to the recognition of onerous leases in relation to the Home Improvement business involve a high degree of complexity and have a risk of causing a material adjustment within subsequent periods. Any changes to carrying values in subsequent periods due to revisions to estimates or assumptions or as a result of the final realisation of the Home Improvement assets and liabilities upon exit of the business will be recognised in the Group's profit or loss as part of discontinued operations up to the sale of the Home Improvement business and continuing operations subsequent to the sale.

The decrease in onerous contract and store exit costs is primarily attributable to the re-assessment of provisions associated with the Group's planned exit from the Home Improvement business (refer to Note 5.1).

3.10 Other non-current liabilities

	2017 $M	2016 $M
Straight-line lease, and incentive liability	**249.2**	232.9
Net defined benefit liability	**62.7**	61.6
	311.9	294.5

4 CAPITAL STRUCTURE, FINANCING, AND RISK MANAGEMENT

4.1 Earnings per share

	2017	2016
Profit/(loss) for the period attributable to equity holders of the parent entity used in earnings per share ($m)		
Continuing operations	**1,422.1**	726.3
Discontinued operations	**111.4**	(1,961.1)
	1,533.5	(1,234.8)
Weighted average number of shares used in earnings per share (shares, millions)		
Basic earnings per share [1]	**1,283.9**	1,263.5
Diluted earnings per share [1, 2]	**1,287.3**	1,263.9
Basic earnings per share (cents per share) [1]		
Continuing operations	**110.8**	57.5
Discontinued operations	**8.6**	(155.2)
	119.4	(97.7)
Diluted earnings per share (cents per share) [1, 2]		
Continuing operations	**110.5**	57.5
Discontinued operations	**8.6**	(155.2)
	119.1	(97.7)

1 Weighted average number of shares has been adjusted to remove Treasury shares held by Woolworths Custodian Pty Ltd (as trustee of various employee share trusts).

2 Includes 3.4 million (2016: 0.4 million) shares deemed to be issued for no consideration in respect of employee options and performance rights.

4.2 Dividends

	2017			2016		
	CENTS PER SHARE	TOTAL AMOUNT $M	DATE OF PAYMENT	CENTS PER SHARE	TOTAL AMOUNT $M	DATE OF PAYMENT
Current year interim	**34**	**437.6**	**07/04/17**	44	559.2	08/04/16
Prior year final	**33**	**422.0**	**07/10/16**	72	912.0	09/10/15
Dividends paid during the year	**67**	**859.6**		116	1,471.2	
Issue of shares under the DRP		**(316.5)**			(282.1)	
Dividends received on Treasury shares		**(2.2)**			(4.3)	
Net cash outflow		**540.9**			1,184.8	

All dividends are fully franked at a 30% tax rate.

On 23 August 2017, the board of directors declared a final dividend in respect of the 2017 year of 50 cents (2016: 33 cents) per share fully franked at a 30% tax rate. The amount will be paid on 6 October 2017 (2016: 7 October 2016) and is expected to be $647.2 million (2016: $422.0 million). As the dividend was declared subsequent to 25 June 2017, no provision has been made as at 25 June 2017.

Dividend Reinvestment Plan (DRP)

The Dividend Reinvestment Plan remains active. Eligible shareholders may participate in the DRP in respect of all or part of their shareholding. There is currently no limit on the number of shares that can participate in the DRP.

The directors have determined that a 1.5% discount will apply to the 2017 final dividend. Shares allocated to shareholders under the DRP for the 2017 final dividend will be allocated at an amount equal to 98.5% of the average of the daily volume weighted average market price of ordinary shares of the Company traded on the ASX over the period of 10 trading days commencing on 12 September 2017. The last date for receipt of election notices for the Dividend Reinvestment Plan is 11 September 2017.

During the year, 37% (2016: 19%) of the dividend paid, excluding the impact of underwriting, was reinvested in the shares of the Company.

Notes to the Consolidated Financial Statements

4.2 Dividends (continued)

Franking credit balance

	2017 $M	2016 $M
Franking credits available for future financial years (tax paid basis, 30% tax rate)	**2,577.2**	2,344.3

The above amount represents the balance of the franking accounts as at the end of the period, adjusted for:

- Franking credits that will arise from the payment of income tax payable at the end of the period; and
- Franking debits that will arise from the payment of dividends provided at the end of the period.

The above franking credit balance excludes $134.2 million (2016: $114.1 million) attributable to non-controlling interests.

4.3 Contributed equity

	2017		2016	
SHARE CAPITAL	NUMBER (M)	$M	NUMBER (M)	$M
1,294,416,480 fully paid ordinary shares (2016: 1,278,758,725)				
Movement:				
Balance at start of period	**1,278.8**	**5,347.0**	1,266.6	5,064.9
Issue of shares as a result of the Dividend Reinvestment Plan[1]	**15.6**	**372.0**	12.2	282.1
Balance at end of period	**1,294.4**	**5,719.0**	1,278.8	5,347.0
SHARES HELD IN TRUST				
Movement:				
Balance at start of period	**(4.1)**	**(94.8)**	(5.8)	(155.9)
Issue of shares under employee long-term incentive plans	**1.0**	**37.1**	1.7	61.1
Shares acquired by share trust	**(1.8)**	**(46.3)**	–	–
Balance at end of period	**(4.9)**	**(104.0)**	(4.1)	(94.8)
Contributed equity at end of period	**1,289.5**	**5,615.0**	1,274.7	5,252.2

1 A net increase in the issued share capital of the Company of 15,657,755 fully paid ordinary shares (2016: 12,143,526) occurred as a result of the dividend issue on 7 October 2016 of 9,404,383 fully paid ordinary shares and the dividend issue on 7 April 2017 of 6,253,372 fully paid ordinary shares pursuant to the Dividend Reinvestment Plan (DRP).

Share capital

Holders of ordinary shares are entitled to receive dividends as declared and are entitled to one vote per share at shareholders' meetings. In the event of winding up of the Company, ordinary shareholders rank after all other shareholders and creditors and are fully entitled to any proceeds of liquidation.

Share options and performance rights

Refer to Note 6.2 for further details of outstanding options and performance rights. Options and performance rights carry no rights to dividends and no voting rights.

4.4 Reserves

Movements in reserves and reserve balances are detailed in the following table:

	2017 $M	2016 $M
Hedging reserve		
Balance at start of period	**(70.5)**	(66.1)
Movement in the fair value of cash flow hedges	**3.8**	(2.7)
Deferred tax arising on cash flow hedges	**1.0**	(1.7)
Transfers	**0.2**	–
Balance at end of period	**(65.5)**	(70.5)
Foreign currency translation reserve		
Balance at start of period	**146.2**	(37.2)
Transfer to the Consolidated Statement of Profit or Loss	**(30.7)**	–
Movement in translation of foreign operations taken to equity, net of tax	**23.8**	183.4
Balance at end of period	**139.3**	146.2
Remuneration reserve		
Balance at start of period	**226.5**	266.8
Shares issued by the Woolworths Employee Share Trust	**(37.1)**	(61.1)
Equity settled share-based payments expense, net of tax	**51.6**	20.8
Balance at end of period	**241.0**	226.5
Asset revaluation reserve		
Balance at start and end of period	**16.5**	16.5
Equity instrument reserve		
Balance at start of period	**22.8**	9.3
Movement in the fair value of investments in equity securities	**2.2**	13.5
Balance at end of period	**25.0**	22.8
General reserve		
Balance at start of period	**(247.6)**	(94.2)
Transactions with non-controlling interests	**–**	(153.4)
Disposals of investments	**5.4**	–
Other	**(0.3)**	–
Balance at end of period	**(242.5)**	(247.6)
Total reserves	**113.8**	93.9

Notes to the Consolidated Financial Statements

4.4 Reserves (continued)

SIGNIFICANT ACCOUNTING POLICIES

The nature and purpose of each reserve account is outlined as follows:

HEDGING RESERVE

The hedging reserve comprises the effective portion of the cumulative net change in the fair value of cash flow hedging instruments related to hedged transactions that have not yet occurred. The cumulative deferred gain or loss on the hedge is recognised in the Consolidated Statement of Profit or Loss when the hedged transaction impacts the profit or loss, consistent with the applicable accounting policy. Refer to Note 4.8 for details of hedging.

FOREIGN CURRENCY TRANSLATION RESERVE (FCTR)

FCTR comprises all foreign exchange differences arising from the translation of the financial statements of foreign operations where their functional currency is different to the Group's presentation currency. Gains and losses on hedging instruments that are designated as hedging instruments for hedges of net investments in foreign operations are also included in the FCTR. Refer to Note 4.8 for details of hedging.

REMUNERATION RESERVE

The employee remuneration reserve comprises the fair value of share-based payment plans recognised as an expense in the Consolidated Statement of Profit or Loss. Refer to Note 6.2 for details of share-based payments. Shares issued by the Woolworths Employee Share Trust are charged against the reserve.

ASSET REVALUATION RESERVE

The asset revaluation reserve arose on acquisition of the previously equity accounted investment in MGW Hotels Pty Ltd and relates to the change in fair value of the Group's interest in non-current assets from the date of acquisition of the initial investment to the date control was achieved.

EQUITY INSTRUMENT RESERVE

The equity instrument reserve arises on the revaluation of investments in equity securities. Subsequent to initial recognition, they are measured at fair value with any changes recognised in other comprehensive income. Upon disposal, the cumulative gain or loss recognised in other comprehensive income is transferred within equity. Refer to Note 3.2 for details of listed equity securities.

GENERAL RESERVE

The general reserve is used to record the cumulative gain or loss recognised in other comprehensive income which is transferred within equity upon disposal of listed equity securities (refer to Note 3.2). The reserve is also used to record differences which may arise as a result of transactions with non-controlling interests that do not result in loss of control.

4.5 Net cash provided by operating activities

Cash and cash equivalents as presented in the Consolidated Statement of Cash Flows

	2017 $M	2016 $M
Cash and cash equivalents (as presented in the Consolidated Statement of Financial Position)	**909.4**	948.1
Cash and cash equivalents (included within assets held for sale)	**7.3**	7.9
	916.7	956.0

Reconciliation of profit for the period to net cash provided by operating activities

	2017 $M	2016 $M
Profit/(Loss) after income tax expense	**1,593.4**	(2,347.9)
Adjustments for:		
Depreciation and amortisation	**1,060.9**	1,075.9
Put option liability	**250.8**	–
Impairment of non-financial assets	**14.4**	2,118.9
Share-based payments expense	**51.6**	20.8
Loss/(Profit) on disposal of business	**46.6**	(11.5)
Interest capitalised	**(29.9)**	(42.3)
Net (profit)/loss on disposal and write-off of property, plant and equipment	**(3.8)**	17.2
Dividends received	**(3.5)**	(3.2)
Other	**31.9**	8.2
Changes in:		
Decrease in inventories	**367.6**	204.1
Increase/(decrease) in trade payables	**260.2**	(171.8)
(Decrease)/increase in provisions [1]	**(821.6)**	1,655.9
Decrease in trade and other receivables	**2.4**	29.1
Increase in sundry payables	**134.1**	225.9
Decrease/(increase) in deferred tax assets	**122.3**	(362.3)
Increase/(decrease) in income tax payable	**44.6**	(59.5)
Net cash provided by operating activities	**3,122.0**	2,357.5

1 Includes restructuring, onerous contracts and store exit costs.

4.6 Borrowings

	2017 $M	2016 $M
Current, unsecured		
Short-term money market loans	**170.3**	45.6
Bank loans	**83.1**	37.4
Short-term securities	**–**	407.3
Finance leases	**0.1**	0.4
	253.5	490.7
Non-current, unsecured		
Bank loans	**528.5**	853.2
Long-term securities	**2,261.7**	2,331.4
Woolworths Notes II	**–**	699.1
Unamortised borrowing costs	**(15.5)**	(15.7)
Finance leases	**2.3**	2.9
	2,777.0	3,870.9
Total	**3,030.5**	4,361.6

Independent Auditor's Report

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Independent Auditor's Report to the Members of Woolworths Limited

Report on the Audit of the Financial Report

Opinion

We have audited the financial report of Woolworths Limited (the Company) and its subsidiaries (the Group), which comprises the Consolidated Statement of Financial Position as at 25 June 2017, the Consolidated Statement of Profit or Loss, the Consolidated Statement of Other Comprehensive Income, the Consolidated Statement of Changes in Equity and the Consolidated Statement of Cash Flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, and the Directors' Declaration.

In our opinion, the accompanying financial report of the Group is in accordance with the *Corporations Act 2001*, including:

(i) giving a true and fair view of the Group's financial position as at 25 June 2017 and of its financial performance for the year then ended; and

(ii) complying with Australian Accounting Standards and the *Corporations Regulations 2001*.

Basis for Opinion

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Report section of our report. We are independent of the Group in accordance with the auditor independence requirements of the *Corporations Act 2001* and the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

We confirm that the independence declaration required by the *Corporations Act 2001*, which has been given to the directors of the Company, would be in the same terms if given to the directors as at the time of this auditor's report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial report for the current period. These matters were addressed in the context of our audit of the financial report as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Independent Auditor's Report

Key Audit Matter	How the scope of our audit responded to the Key Audit Matter
Home Improvement exit As disclosed in Note 5.1 Discontinued Operations, during the financial year there has been significant progress in relation to the exit of the Home Improvement business. As set out in Note 6.5 Subsequent Events there have been further developments that have occurred subsequent to balance date which have resulted in the settlement of the Lowe's put option as well as the sale of Hydrox Holdings Pty Ltd to Home Consortium (the Home Consortium transaction). The Home Improvement exit has a number of interrelated components, each of which required consideration, including: • sale of the Home Timber and Hardware Group • liquidation of Masters inventory • closure of all Masters stores and settlement of trading and employee liabilities • accounting for property costs, including re-measurement of onerous leases and exit costs to be settled by the Group • the Lowe's put option • accounting for the Home Consortium transaction • taxation implications relating to the Home Improvement exit. The accounting for these interrelated components is complex and there are significant judgements and estimates required in determining the carrying value of the remaining assets and liabilities held at the balance date, particularly in relation to: • assets and liabilities being disposed of in the Home Consortium transaction • assets and liabilities, including onerous lease provisions and other residual liabilities being retained by the Group • accounting treatment of the Lowe's put option. Given these complexities we have considered the accounting for the Home Improvement exit to be a key audit matter.	Our procedures included but were not limited to: • Assessing the appropriateness of the accounting in respect of the sale of Home Timber and Hardware by reference to the sale agreement. • Understanding the terms and conditions in relation to the liquidation of Masters inventory as well as testing that the amounts recorded in revenue and cost of sales are in accordance with the terms of appointment of GA Australia Pty Ltd. • Evaluating and challenging the estimates and judgements within management's assessment of the assets and liabilities, including onerous lease provisions and residual liabilities to be retained by the Group. This included reviewing contracts and lease agreements, and assessing the recorded amounts against historical trends from previously negotiated settlements, as well as assessing the discount rate applied to the calculation of the onerous lease provision. • Evaluating whether the Lowe's put option has been appropriately accounted for. • Agreeing the aggregate carrying value of the assets reflected in the financial statements to the Home Consortium Share Sale Agreement. • Consideration of the taxation implications and the accounting consequences of the Home Improvement exit transactions. • Assessing the appropriateness of the disclosures in notes 5.1 and 6.5.

Independent Auditor's Report

<table>
<tr><th>Key Audit Matter</th><th>How the scope of our audit responded to the Key Audit Matter</th></tr>
<tr><td>Carrying value of BIG W property, plant and equipment

Included in consolidated property, plant and equipment and other non-current assets are assets relating to BIG W with a carrying value of $514.3 million.

The trading performance of BIG W has deteriorated in recent years. As a result, there is a risk that the carrying value of stores and related property, plant and equipment and other non-current assets may be higher than their recoverable amount.

Management's approach and results of their testing of the recoverable amount has been described in Notes 3.3 and 3.5.

Our audit focused on this area because the assessment of recoverable value requires management to make a number of key judgements and estimates with respect to the future trading performance and profitability of BIG W, including judgements and estimates on future growth rates, the impact of the general economic environment on the sectors in which BIG W operates and the impact of competition on BIG W's market share. These key judgements and estimates are being made in the context of the multi-year turnaround plan which has recently been approved by the board.

As a result of the Group's impairment review of BIG W, an impairment charge of $35.3 million was recognised in the financial year ended 25 June 2017.</td><td>Our procedures included but were not limited to:
• Understanding management and the board's controls over the assessment of the carrying value of BIG W's property, plant and equipment and other non-current assets to determine whether any asset impairment was required.
• Understanding management and the board's methodologies and their documented basis for key assumptions which are described in Note 3.3 in the financial report.
• In conjunction with our Corporate Finance specialists, we evaluated the Group's assumptions and estimates used to determine the recoverable amount of BIG W, including those relating to long-term growth rates, margins and discount rates with reference to external data such as economic and industry forecasts, comparable companies as well as Deloitte developed discount rates.
• Testing, on a sample basis, the mathematical accuracy of the cash flow models and agreeing relevant data to approved budgets and latest forecasts.
• Performing sensitivity analysis in relation to the key assumptions, with particular focus on drivers of the growth rates, margins and discount rate used in the impairment models.
• Having ascertained the extent of sensitivity to change in those assumptions that either individually or collectively would be required for an impairment, we considered the likelihood of such a movement in those key assumptions arising.
• Assessing the appropriateness of the disclosures included at Note 3.3 to the financial statements.</td></tr>
<tr><td>Inventory provisioning

As disclosed in the financial statements at 25 June 2017 the Group held inventories of $4,080.4 million. As set out in the Group's accounting policies in Note 1.2.4, the Group carries inventory at the lower of cost and net realisable value.

The Group provides for obsolescence and shrinkage based on estimates including forecast sales assumptions and historical trends. In addition, for general merchandise inventory consideration is given to seasonal lines and slower moving products.

As a result, we have focused our work on these areas in assessing that inventory is carried at the lower of cost and net realisable value.</td><td>Our procedures included but were not limited to:
• Testing the controls associated with inventory valuation.
• Evaluating the appropriateness of management's judgements and assumptions applied in calculating the value of inventory by:
○ understanding the inventory provisioning policy with specific consideration of aged inventory, seasonality, as well as inventory turn calculations and sell through rates (especially for the non-food and general merchandising businesses)
○ testing the value of a sample of inventory to confirm it is held at the lower of cost and net realisable value, through comparison to vendor invoices and sales prices
○ reviewing historical accuracy of inventory provisioning with reference to inventory write-offs during the year
○ testing the obsolescence and shrink rate and underlying inputs in the inventory provision calculation to supporting documentation and testing the mathematical accuracy of the provision calculations.</td></tr>
</table>

<table>
<tr><th>Key Audit Matter</th><th>How the scope of our audit responded to the Key Audit Matter</th></tr>
<tr><td>Accounting for rebates

The Group receives significant rebates, incentives and discounts from suppliers and recognises the majority of these as a reduction in value of inventory or as a reduction in cost of sales depending on the nature of the rebate, incentive or discount. Assessing the timing of recognition of these rebates, incentives and discounts is complex requiring both a detailed understanding of the contractual arrangements as well as complete and accurate source data to which the arrangements apply.

Given the significance of rebate arrangements, our audit focused on these arrangements as they impact inventory valuation and cost of goods sold. In addition the timeliness and accuracy of the recording of these arrangements may have a significant impact on the Group’s results.</td><td>Our procedures included but were not limited to:
Obtaining an understanding of the controls that the Group has established in relation to rebates, incentives and discounts for both automated and manually processed rebates.
Testing of rebates, incentives and discounts on a sample basis, by agreeing them to contracts or other supporting documentation with suppliers, including sales reports and promotion information obtained from suppliers or other sources.
Reviewing the appropriateness of rebate receivables, incentives and discounts at the reporting date.
Assessing the appropriateness of the accounting for rebates, incentives and discounts in the financial statements.</td></tr>
<tr><td>IT Systems

The IT systems across the Group are complex and there are varying levels of integration between them. These systems are vital to the ongoing operations of the business and to the integrity of the financial reporting process and as a result the assessment of IT systems forms a key component of our external audit.</td><td>Our procedures included but were not limited to:
Discussing with management the IT environment and consideration of the key financial processes to understand where IT systems were integral to the financial reporting process. From this we identified IT systems to include in the scope of our IT testing.
Testing the design of the key IT controls relating to the Group’s financial reporting systems.
In respect of any deficiencies identified, we completed a combination of additional controls and substantive testing in order to determine whether we could place reliance on the completeness and accuracy of system generated information, including:
understanding review level controls in place
assessing the design and operating effectiveness of any controls (including review controls) that mitigated the identified risks.
In addition, and where appropriate, we extended the scope of our substantive audit procedures.</td></tr>
</table>

Other Information

The directors are responsible for the other information. The other information comprises the information included in the annual report, but does not include the financial report and our auditor’s report thereon.

Our opinion on the financial report does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial report, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial report or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Independent Auditor's Report

Directors' Responsibilities for the Financial Report

The directors of the Company are responsible for the preparation of the financial report that gives a true and fair view in accordance with Australian Accounting Standards and the Corporations Act 2001 and for such internal control as the directors determine is necessary to enable the preparation of the financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

In preparing the financial report, the directors are responsible for assessing the ability of the Group to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Report

Our objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

As part of an audit in accordance with the Australian Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.
- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial report or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the financial report. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the directors, we determine those matters that were of most significance in the audit of the financial report of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Independent Auditor's Report

Report on the Remuneration Report

We have audited the Remuneration Report included in pages 34 to 51 of the Directors' Report for the 52 weeks ended 25 June 2017.

In our opinion, the Remuneration Report of Woolworths Limited, for the 52 weeks ended 25 June 2017, complies with section 300A of the *Corporations Act 2001*.

Responsibilities
The directors of the Company are responsible for the preparation and presentation of the Remuneration Report in accordance with section 300A of the *Corporations Act 2001*. Our responsibility is to express an opinion on the Remuneration Report, based on our audit conducted in accordance with Australian Auditing Standards.

Deloitte Touche Tohmatsu

DELOITTE TOUCHE TOHMATSU

Andrew Griffiths

A V Griffiths
Partner
Chartered Accountants

Sydney, 23 August 2017

GLOSSARY

This glossary provides definitions for many terms in financial accounting. Terms are cross-referenced to other terms where helpful. For additional help in finding things, consult the index at the end of this book.

A

Accelerated depreciation (amortisation)
a depreciation method, such as reducing balance, that records more depreciation in the earlier years of an asset's life, and less in later years, than does the straight-line method. See **Reducing balance depreciation**, **Straight-line depreciation**.

Account
a summary record of an asset, liability, shareholders' equity, revenue or expense, in which the effects of transactions, accruals and adjustments are indicated in dollars. See **General journal, General ledger**, **Transaction**.

Accounting
the record-keeping and reporting of an enterprise's performance and position in monetary terms. Accounting provides the reports that summarise the economic results of management's decisions for internal use and for transmission to external interested parties (such as investors, creditors and regulatory agencies). See **Financial accounting**, **Management accounting**.

Accounting entity
the enterprise for which the accounting is being done. The entity may be a single legal company or other organisation, an economic unit without legal standing (such as a proprietorship) or a group of companies with connected ownership for which consolidated financial statements are prepared.

Accounting equation
the double-entry arithmetic by which Assets = Liabilities + Shareholders' equity.

Accounting policy
the specific principles, bases, conventions, rules and practices chosen by an entity in preparing and presenting financial statements. For examples, see the notes immediately following the financial statements of any company.

Accounting policy choice
a decision between acceptable accounting policies is often needed because more than one acceptable policy exists in many areas.

Accounting principles
see **Generally accepted accounting principles (GAAP)**.

Accounting standards
the mandating of particular accounting methods or policies by an authoritative body. In Australia, this is done by the Australian Accounting Standards Board, and in the United States by the Financial Accounting Standards Board. See **Accounting policies**, **Generally accepted accounting principles (GAAP)**.

Accounts payable
liabilities representing amounts owed to short-term trade creditors. Often called 'trade creditors'.

Accounts receivable
amounts owing by debtors (customers), usually arising from sales of goods or services. Often called 'trade debtors'.

Accrual accounting
the method of making an economically meaningful and comprehensive measurement of performance and position by recognising economic events regardless of when cash transactions happen, as opposed to the simpler cash basis of accounting. Under this method, revenues and expenses (and related assets and liabilities) are reflected in the accounts in the period to which they relate.

Accrual profit
the result of subtracting expenses from revenue(s), when both kinds of accounts are calculated by accrual accounting. See **Accrual accounting**, **Net profit**.

Accrued expense
an expense recognised in the accounts before paying for it.

Accumulated depreciation (amortisation)
a balance sheet account that accumulates total depreciation (amortisation) expense over a number of years. The account balance is a credit, so it is opposite to the debit balance asset cost account. The difference between cost and accumulated depreciation is the book value of the asset. Accumulated depreciation relates to tangible assets and accumulated amortisation relates to intangible assets. See **Amortisation**, **Book value**, **Contra accounts**, **Depreciation**, **Fixed assets**.

Acid test ratio
cash, temporary investments and accounts receivable divided by current liabilities. Also called the **Quick ratio**.

Adjusted trial balance
the list of accounts that are prepared after all the accrual accounting adjustments and corrections have been made, so representing the final account balances used in preparing the financial statements. See **Adjusting (journal) entry**, **Trial balance**.

Adjusting (journal) entry
a journal entry to implement accrual accounting by recognising, in the accounts, economic events that are not yet adequately accounted for by the routine transactional accounting system. For example, if there is no transaction to reveal the gradual wear and tear of a fixed asset, an adjusting entry must be made to recognise this depreciation.

Adjustment(s)
see **Adjusting (journal) entry**.

Ageing of accounts receivable
the process of classifying accounts receivable by the time that has passed since the account came into existence. This classification is used as an aid to estimating the required allowance for doubtful debts for the estimated amount of uncollectable accounts receivable.

Agency theory
is concerned with relationships between people in which one or more of them (the agents, such as managers, auditors and lawyers) is entrusted with acting on behalf of one or more others (the principals, such as owners, creditors and defendants). Agency theory tends to focus on the stewardship role of accounting information (in monitoring and controlling the stewardship of the agent on behalf of the principal). Principals and agents can demand whatever information their specific relationship requires.

Agent
a person who is a party to a contract between him- or herself and another, called the principal. The agent's role is to carry out the wishes of the principal, as specified in the contract. Some examples of agents are managers, auditors and lawyers, who are entrusted with acting on behalf of one or more others (the principals, such as owners, creditors and defendants). Agents have a stewardship responsibility to the principal. See **Contract**, **Stewardship**.

Allowance for doubtful debts
the estimated amount of accounts receivable that will not be collected (which are 'doubtful'). The account, which is a contra account to accounts receivable, is used in order to recognise the bad debts expense related to such doubtful accounts, but without removing those accounts from the books, because the firm will still try to collect the amounts owing.

Amortisation
allocation of the cost of an intangible asset to an expense account over several accounting periods to recognise the 'consumption' of the asset's economic value as it helps to earn revenue over those periods.

Annual report
the document provided annually to shareholders by the officers of a company. It includes the financial statements, the notes to the financial statements, the auditor's report, supplementary financial information, such as multi-year summaries, and reports from the company's board of directors and management.

Asset valuation
see **Balance sheet valuation**.

Asset(s)
a resource that is controlled by an entity as a result of past events, and from which future economic benefits are expected to flow to the entity.

Associated company
a company, which is not a subsidiary of an investor company, over which the investor has significant influence (generally 20–50 per cent ownership) but not control. See **Equity method**.

Audit
a service where the auditor's objective is to provide a reasonable level of assurance by issuing a positive expression of opinion that enhances the credibility of an assertion about an accountability matter. See **Auditor's report**.

Audit committee
a subcommittee of the board of directors, generally comprising non-executive directors who liaise with the external and internal auditors.

Audit report
the auditor's report on the truth and fairness of the set of financial statements.

Auditor's report
the document accompanying the financial statements that expresses the auditor's opinion on the fairness of the financial statements.

Australian Accounting Standards Board (AASB)
the Australian body that sets financial accounting standards to be followed in the preparation of financial statements.

Authoritative standards
written rules and guidelines established by official accounting standard-setters such as the Australian Accounting Standards Board in Australia and the Financial Accounting Standards Board in the United States.

Available cost
the total dollar amount represented by the sum of beginning inventory and purchases during the period, therefore representing the total dollar cost of inventory available for sale or use during the period.

Average cost (AVGE)
an inventory cost flow assumption by which the cost of an individual unit of inventory is the weighted average cost of the beginning inventory and subsequent purchases. See **Weighted average**.

B

Bad debts expense
an expense account that results from the reduction in carrying value of those accounts receivable that have been projected to be uncollectable or doubtful. See **Allowance for doubtful debts**.

Balance sheet
the list of assets, liabilities and owners' equity that constitutes the formal statement of a company's financial position at a specified date, summarising, by category, the assets, liabilities and shareholders' equity.

Balance sheet valuation
the assignment of numerical values to the balance sheet's assets, liabilities and shareholders' equity accounts.

Bank overdraft
a negative bank account balance (withdrawals exceeding deposits), which banks may allow as a de facto loan as long as it is temporary. See **Line of credit**.

Bank reconciliation
the reconciliation of a bank statement with the figures in a company's cash at bank ledger account.

Basic earnings per share (EPS)
calculated by dividing the profit of a company by the weighted average number of ordinary shares outstanding during the year.

Betterment
an expenditure to improve an asset's value to the business, which commonly extends the asset's functionality and/or useful life (more than just repairs and maintenance), and is added to the value of the asset (capitalised), not expensed.

Big bath
a way of manipulating reported profit to show even poorer results in a poor year in order to enhance later years' results.

Board of directors
the senior level of management, representing and directly responsible to the owners (shareholders). Normally elected annually by the shareholders.

Bond
an instrument of debt issued by an enterprise in return for cash, in which a promise is made to repay the debt (usually at a particular date or on a specified schedule) plus interest.

Bond market
capital markets in which debt instruments (bonds and similar items), rather than shares, are traded. See **Capital markets**.

Bonus issue
the issue of additional shares to existing shareholders with no cost incurred by them. For example, a two-for-one bonus issue would involve the issue of two additional shares for every share held. See **Share dividend**.

Book value
the amount shown in the accounts for any asset, liability or shareholders' equity item, after deducting any related contra account (for example, the book value of a truck is the recorded cost minus accumulated depreciation). The term is also commonly used to refer to the net amount of total assets less total liabilities (the recorded value of the shareholders' residual interest, which equals total equity: Assets = Liabilities + Equity).

Book value per share
total shareholders' equity divided by the number of shares issued.

Books of original entry
the journals in which transactions are first recorded.

Bottom line
a colloquialism referring to the net profit (the 'bottom line' on the income statement). See **Profit**.

C

Capital
the owners' contribution to or interest in a business (the equity). Often used specifically to refer to the equity of unincorporated businesses (proprietorships and partnerships). See **Equity**.

Capital maintenance
the concept that the owners' equity of a business should be sustained before distributions are paid out of the company to owners.

Capital market theory
deals with the behaviour of aggregate markets (such as share markets) and with the role of information in the operation of such markets.

Capital markets
markets in which financial instruments, such as shares and bonds, are traded.

Capitalisation, capitalise
the recognition of an expenditure that may benefit a future period as an asset rather than as an expense of the period of its occurrence. Expenditures are capitalised if they are likely to lead to future benefits and, thus, meet the criterion to be an asset.

Carrying value
the amount shown on the balance sheet for a particular asset or liability.

Cash basis
recognising the effects of transactions and other events when cash, or its equivalent, is received or paid, rather than when the transactions or other events occur.

Cash disbursements
cash payouts, by cheque, currency or direct deductions from the bank account. See **Cash payments**, **Cash receipts**.

Cash flow
the inflows of cash (cash receipts) and outflows of cash (cash disbursements) over a period. Information about cash flow is presented in the statement of cash flows.

Cash flow cycle
the time from the payment of goods purchased for manufacture or resale to receipt of cash for final product or sale.

Cash flow from financing
Cash inflows or outflows from financing activities, including share issues and borrowings.

Cash flow from operations
cash generated by day-to-day business activities and highlighted as the first section in the statement of cash flows.

Cash flow statement
see **Statement of cash flows**.

Cash flow to total assets
the ratio of cash from operations divided by total assets.

Cash payments
payments by currency, cheque or other bank withdrawal. See **Cash transaction**.

Cash profit
cash receipts minus cash disbursements. Roughly equivalent to the cash from operations figure.

Cash receipts
cash inflows, by currency, other people's cheques or direct bank deposits. See **Cash receipts journal**, **Cash transaction**.

Cash receipts journal
the record of customers' cheques and other cash received. See **Books of original entry**.

Cash transaction
the simplest kind of economic exchange routinely recorded by financial accounting, and an important starting point for the financial statements.

Chart of accounts
an organised list of the accounts used in the accounting system. This can be contrasted with the trial balance, which displays all the accounts and their debit or credit balances.

Classification
the choice of where in the financial statements to place an account, such as whether an investment asset should be shown as a current asset or a noncurrent asset.

Close, closing
the transfer of the temporary accounts (revenues, expenses and dividends declared) to retained earnings at the end of the fiscal period.

Closing entries
journal entries that are recorded at year-end to transfer the balances in temporary accounts (revenues, expenses and dividends) to the balance sheet's account of retained profits, and set those balances to zero in preparation for entering the next year's transactions.

COGS
see **Cost of goods sold**.

Common size financial statements
a technique used for analysing financial statements that involves income statement figures being expressed in percentages of revenue, and balance sheet accounts being expressed in percentages of total assets.

Comparability
information that enables users to identify similarities in and differences between two sets of economic phenomena, such as two different years of a company's financial statements.

Compound, compounded, compounding
terms that refer to the frequency by which interest calculated on a loan or other debt is periodically added to the principal, therefore attracting future interest itself. See **Present value**.

Conservative accounting policies
opposite to aggressive accounting policies.

Consolidated financial statements, consolidation
a method of preparing financial statements for a group of companies linked by ownership as if they were a single company. Consolidated financial statements recognise that the separate legal entities are components of one economic unit.

Consolidated goodwill
a form of goodwill arising only when companies' financial statements are combined in consolidation.

Contra accounts
accounts established to accumulate certain deductions from an asset, liability or owners' equity item. See **Allowance for doubtful debts**, **Amortisation**, **Book value**, **Depreciation**.

Contra asset
an account that normally has a credit balance, but is located in the asset part of the balance sheet, and deducted from the asset to give a net balance. Examples include accumulated depreciation and allowance for doubtful debts.

Control
the power to govern the financial and operating policies of an entity in order to obtain benefits from that entity's activities.

Control account
a general ledger account for which there is detailed analysis provided in the subsidiary ledger.

Corporate governance
the system by which companies are directed and managed. It influences how the objectives of the company are set and achieved, how risk is monitored and assessed, and how performance is optimised.

Corporate group
a group of companies linked by common or mutual ownership. See **Consolidated financial statements**.

Cost basis
a term usually used to account for a noncurrent intercorporate investment when a company does not have control over another company. The investment is carried at cost, and any receipt of dividends is recorded as revenue for the period. See **Equity method**, **Intercorporate investments**.

Cost flow assumption
an assumption made about the order in which units of inventory move into and out of an enterprise, used to compute inventory asset value and cost of goods sold expense in cases where the order of flow is not or cannot be identified. Possible assumptions include FIFO, LIFO and weighted average. See **Cost of goods sold**, **First in, first out**, **Weighted average** and **Last in, first out** for specific examples.

Cost of capital
the cost of raising debt or equity funds; for example, the cost of borrowed funds is mostly the interest to be paid to the lender.

Cost of goods sold (COGS)
an expense account that reflects the cost of goods that generated the revenue (also called cost of sales). See **Cost flow assumption**, **Gross profit**, **Inventory costing**.

Credit transaction
an economic exchange by which at least one party makes a promise to pay cash or other consideration later. This kind of transaction is recognised by most financial accounting systems, especially if it is a routine way of doing business. See **Accounts payable**, **Accounts receivable**.

Creditor
one who extends credit; that is, gives someone the right to buy or borrow now in consideration of a promise to pay at a later date.

Current assets
cash and other assets, such as temporary investments, inventory, receivables and current prepayments, that are realisable or will be consumed within the normal operating cycle of an enterprise (usually one year). See such current asset categories as **Accounts receivable**, **Cash equivalent assets**, **Inventory**.

Current liabilities
liabilities that are expected to be paid within the normal operating cycle of an enterprise (usually one year). See **Accounts payable**.

Current market value
the estimated sale value of an asset, settlement value of a debt or trading value of an equity share.

Current ratio
current assets divided by current liabilities.

Current value accounting
a proposed accounting method that uses current or market values to value assets and liabilities and to calculate profit.

D

Days' sales in receivables
the ratio of accounts receivable to the daily sales, expressed in number of days' sales represented by accounts receivable. Also called **Collection ratio**, **Days in debtors**.

Debenture
a form of security taken by a creditor on a loan or bond, by which the creditor has a general ability to influence or direct management decisions if the debt payments are not made on schedule; not a claim on a specific asset, as a mortgage is.

Debt-to-assets ratio
total liabilities divided by total assets.

Deferral
part of accrual accounting, but often used as the opposite to an accrual. A deferral involves keeping a past cash receipt or payment on the balance sheet – in other words, putting it on the income statement as revenue or expense at a later time. An example is recognising a deferred revenue liability resulting from a recent cash receipt, such as for a magazine subscription to be delivered later. (By contrast, accruals involve recording a revenue or expense before the cash receipt or payment occurs.)

Depreciation
allocation of the cost of a noncurrent asset to expense over several accounting periods to recognise the consumption of the asset's economic value as it helps to earn revenue over those periods. The term 'depreciation' is used with respect to tangible assets, while 'amortisation' is used with respect to intangible assets. See **Accumulated depreciation**, **Amortisation**, **Book value**, **Straight-line depreciation**.

Direct energy and emission sources
energy consumption or production undertaken at, and greenhouse emissions arising from, operations over which the business has the authority to introduce and implement operating, environmental and health and safety policies.

Direct method of cash flow analysis
a method of preparing the statement of cash flows, especially the cash from operations section, using records of cash receipts and disbursements instead of the adjustments to net income used in the more traditional Indirect method of cash flow analysis.

Direct write-off
the transfer of the cost of an asset to an expense or loss account by removing the amount entirely from the asset account. Used in cases where there is no prior allowance for the expense or loss, so used when there is no contra account such as allowance for doubtful debts.

Disclosure
principle of providing sufficient disclosure in accounting reports to enable users to make necessary decisions.

Discontinued operations
portions of the business that the enterprise has decided to not keep going and/or to sell to others.

Discounted cash flow
present value analysis of future cash flows by removing their presumed interest components.

Dividend payout ratio
the ratio of dividends declared to net profit.

Dividends
distributions of a portion of net profit to shareholders in the company.

Double-entry accounting
the practice of recording two aspects of each transaction or event: the resource effect and the source effect. Though much expanded since its invention several hundred years ago, it is still the basis of bookkeeping and financial accounting.

E

Earnings before interest and tax (EBIT)
a measure of profit based on the operating profit before interest and taxes are deducted.

Earnings before interest, tax, depreciation and amortisation (EBITDA)
a measure of profit based on the operating profit before deducting interest, tax, depreciation and amortisation.

Earnings per share (EPS)
the ratio of net profit to the average number of ordinary (voting) shares outstanding; used to allow the owner of the shares to relate the company's earning power to the size of his or her investment.

e-commerce
it is the conduct of financial transactions, and much of the business transactions behind them, over electronic media such as telecommunication lines or the World Wide Web.

Economic entity
the financial accounting definition of an enterprise, used to determine what is to be included in transactions and in the financial statements. Also used to refer to a group of companies considered to be under the same control, so constituting a larger economic group. See **Consolidated financial statements**, **Transaction**.

Efficient capital market
a theoretical description of a capital market whose prices respond quickly and appropriately to information.

Efficient market hypothesis
the proposal that capital markets actually are efficient, responding quickly, smoothly and appropriately to information. Some seem to be efficient; some do not. See **Efficient capital market**.

Electronic commerce
See **e-commerce**.

Electronic funds transfer (EFT)
the transfer of money between a buyer's bank account and the seller's bank account without the need to write cheques or make deposits. EFT is what happens if a customer uses a bank card to pay for groceries in the supermarket and the amount is automatically deducted from the customer's bank account.

Employee deductions
amounts that are deducted from an employee's gross salary before the net amount is paid to him or her. These deductions include income tax, superannuation, union fees and health insurance.

Equity
the net assets or residual interest of an owner or shareholder (Assets − Liabilities = Equity). See the components of equity under **Retained profits**, **Shareholders' equity**.

Equity method
a method of accounting for intercorporate investments, usually used when a company owns between 20 per cent and 50 per cent of another company. The investment is carried at cost, and any profit or loss, multiplied by the percentage ownership of the owned company, is added to or deducted from the investment. Any dividends received are deducted from the investment.

Expense
the cost of assets used and/or obligations created in generating revenue. More formally, consumptions or losses of future economic benefits in the form of reductions in assets or increases in liabilities of the entity, other than those relating to distributions to owners, that result in a decrease in equity during the reporting period. See **Accrual accounting**, **Income statement**, **Expense recognition**, **Matching**, **Revenue**.

Expense recognition
the incorporation of measures of expenses incurred into the measurement of profit by entering into the accounts the amount of expense determined, according to the firm's accounting policies, to be attributable to the current period. See **Matching**, **Revenue recognition**.

External audit
the audit conducted by an external auditor.

F

Fair value
the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's-length transaction.

Faithful representation
the financial statements should report the economic substance of events happening to the company, and the numbers should measure the events neutrally, neither overstating nor understating their impact.

FIFO
See **First in, first out**.

Financial accounting
the reporting in financial statements of the financial position and performance of an enterprise to users external to the enterprise on a regular, periodic basis.

Financial Accounting Standards Board (FASB)
the US body responsible for setting the standards that financial reporting must follow.

Financial leverage
see **Leverage**.

Financial performance
the enterprise's ability to generate new resources from day-to-day operations over a period of time, via dealing with customers, employees and suppliers. Measured by the net profit figure in the income statement.

Financial position
the enterprise's set of assets, liabilities and owners' equity at a point in time. Measured by the balance sheet.

Financial reporting
use of financial statements and disclosure to report to people outside the enterprise on its financial performance and financial position.

Financial statements
the reports for people who are external to the enterprise (although they are also of interest to management) referred to in the definition of accounting, which generally comprise a balance sheet, an income statement, a statement of cash flows and the notes to these statements.

Financing activities
part of the statement of cash flows for those activities that relate to the changing size and composition of the financial structure of the entity.

First in, first out
an inventory cost flow assumption by which cost of goods sold is determined from the cost of the beginning inventory and the cost of the oldest purchases; thus the acronym FIFO, which stands for 'first in, first out'. It follows, therefore, that under FIFO ending inventory cost is determined from the cost of the most recent purchases. See **Cost flow assumption**.

Fixed assets
tangible, noncurrent physical assets that are not expected to be used up in one operating cycle, but are expected to be used in generating revenue for many periods (e.g. machines, buildings and land). See **Current assets**, **Noncurrent assets**.

Foreign currency translation reserve
an account arising as a consequence of the method used to convert foreign operations' accounting figures into Australian dollars for the purpose of combining them with the figures for Australian operations. Because income statement accounts are generally converted at average foreign exchange rates and balance sheet accounts are generally converted at year-end or historical rates, converted accounts do not quite balance. The difference is put into equity as a separate item, because it does not seem to fit anywhere else, and it is part of the (converted) residual equity of the owners.

Future value
the amount to which presently held financial assets or liabilities will build up as interest is added to the principal amount invested or borrowed. Often contrasted with present value, which is the future cash flows discounted back to present-day dollars.

Future warranty costs
warranty costs expected to be paid in future years based on the expected warranty expenses related to sales already made.

G

GAAP
see **Generally accepted accounting principles**.

Gain on sale
gain that occurs when a company receives a larger amount of proceeds for the sale of an asset than its book value.

Gains
a class of income representing other items that meet the definition of income but need not relate to the ordinary activities of an entity.

General journal
an accounting record used mainly to record accrual adjustments (journal entries) not provided for in separate specialised journals.

General ledger
a collection of individual accounts that summarises the entire financial accounting system of an enterprise.

General purpose financial reports
financial reports that are prepared in order to meet the information needs of a range of users who are unable to command information designed for their individual, specific needs.

General reserve
amount of shareholders' funds transferred from retained profits. By transferring to the general reserve account, the company is indicating to shareholders that this amount is not intended to be distributed to shareholders in dividends.

Generally accepted accounting principles (GAAP)
principles and methods of accounting that have the general support of standard-setting bodies, general practice, texts and other sources. See **Accounting standards**.

Going concern
a fundamental assumption in financial accounting that a firm will continue to be financially viable. If a firm is not a going concern, normal accounting principles do not apply. See **Liquidation value**.

Goods and services tax
the Australian federal sales tax on goods and services (with some exceptions, such as fresh food) that a business collects as a

percentage of its own revenue, and remits to the government after deducting any GST the business paid on its own purchases.

Gross profit
sales revenue minus cost of goods sold. Also called gross margin.

GST (goods and services tax)
See **Goods and services tax**.

H

Hedging
actions that are taken to avoid or minimise the possible adverse effects of changes in exchange rates and market prices (e.g. the price of oil).

Historical cost
the dollar value of a transaction on the date it happens, normally maintained in the accounting records from then on because of accounting's reliance on transactions as the basis for recording events. The cost, or historical cost, of an asset is therefore the dollar amount paid for it or promised to be paid as of the date the asset was acquired.

I

Impairment loss
the amount by which the carrying amount of an asset exceeds its recoverable amount.

Income
increases in economic benefits during the accounting period in the form of inflows or enhancements of assets or decreases of liabilities that result in decreases in equity, other than those relating to contributions from equity participants.

Income (profit) smoothing
the manipulation of the announced results for net profit so that the year-to-year variations in reported profit are reduced.

Income statement
a financial statement that summarises the revenues and expenses of a business for a stated period of time and computes the net profit (revenues minus expenses). Sometimes referred to as a profit and loss statement. See components of the statement such as **Expense**, **Profit**, **Revenue**; see also **Financial performance**.

Income tax
tax assessed on the profit of a business enterprise or the salary or wage of an individual, according to income tax laws.

Income tax expense
an estimate of the current and future (deferred) income tax arising from the profit, as computed on the income statement and matched to the revenues and expenses shown on the statement.

Income tax payable
the liability for the amount of income tax due on the year's profit, calculated according to the income tax law, whether or not it matches the Income tax expense.

Indirect energy and emission sources
energy consumption or production undertaken at, and greenhouse emissions arising from, operations over which another business has the authority to introduce and implement operating, environmental and health and safety policies.

Indirect method of cash flow analysis
the method of deriving the cash flow from operations section of the statement of cash flows by adjusting net profit for non-cash items.

Information system
an organised and systematic way of providing information to decision-makers. Accounting is an information system. See also Management information system.

Intangible assets
non-physical noncurrent assets such as copyrights, patents, trademarks, import and export licences, other rights that give a firm an exclusive or preferred position in the marketplace, and goodwill. See **Amortisation**, **Assets**, **Goodwill**.

Integrated reporting
brings together material information about an organisation's strategy, governance, performance and prospects in a way that reflects the commercial, social and environmental context within which it operates. It provides a clear and concise representation of how an organisation demonstrates stewardship and how it creates and sustains value.

Intercorporate investments
investments by one company in other companies. See **Consolidated financial statements**, **Cost basis**, **Equity method**.

Interest
the amount charged by a lender for the use of borrowed money.

Interest coverage ratio
usually calculated as (profit before interest expense and income tax) ÷ interest expense.

Internal control
A process, brought about by an entity's board of directors, management and other personnel, that is designed to provide reasonable assurance regarding the achievement of objectives in the following categories:

- effectiveness and efficiency of operations
- reliability of financial reporting
- compliance with applicable laws and regulations.

Internal transactions
transactions recorded by the entity that do not result from transacting with a third party but are book entries only; for example, depreciation entries and using up supplies.

International Accounting Standards Board (IASB)
the committee that sets international accounting standards; made up of representatives from more than 50 countries.

Inventory(ies)
goods that are purchased or manufactured by a company for sale, resale or further use in operations, including finished goods, goods in process, raw materials and supplies. See **Current assets**, **Inventory costing**.

Inventory costing
comprises various methods of determining the cost of inventory for balance sheet valuation purposes and valuing cost of goods sold. The more common methods are FIFO, LIFO and weighted average.

Inventory turnover
cost of goods sold expense ÷ average inventory assets.

Investments
assets, such as shares or bonds, that are held for their financial return (e.g. interest or dividends) rather than for their use in the enterprise's operations.

Investors
people who own investments and who, because of their interest in the value of those shares or bonds, are interested in information about the enterprises issuing such shares and bonds.

J

Journal entry
a record of a transaction or accrual adjustment that lists the accounts affected, and in which the total of the debits equals the total of the credits. See **Account**.

Journals
chronological or primary records in which accounting transactions of a similar nature are permanently recorded. See **Books of original entry**, **General journal**.

L

Last in, first out
a cost-flow assumption that is the opposite of FIFO. Last in, first out assumes that the units sold are from the most recent purchases. It therefore bases the cost of goods sold on the most recent purchases and ending inventory on the oldest purchases. See **Cost flow assumption**, **FIFO**, **Weighted average**, **Inventory costing**.

Lease
a contract requiring the user of an asset to pay the owner of the asset a predetermined fee for the use of the asset.

Ledger
any book or electronic record that summarises the transactions from the books of original entry in the form of accounts. See **Account**, **General ledger**, **Journals**, **Trial balance**.

Leverage
the increased rate of return on owners' equity when assets earn a return larger than the interest rate paid for the debt financing of them. Also refers to a measure of the amount of debt issued compared to shareholders' equity. The greater the proportion of debt, the higher the leverage.

Leverage ratio
the ratio of total assets divided by shareholders' equity.

Liability
a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits.

LIFO
See **Last in, first out**.

Line of credit
advance approval from a bank to borrow money under agreed conditions. A line of credit usually means that the borrower can get the money as needed (e.g. when the bank account is overdrawn), without further approval.

Listed (shares)
a listed company (corporation) is one whose shares are available for trading on a stock exchange. See **Public company**.

Long service leave
in Australia, leave granted to an employee who stays with the same employer for a minimum number of years (often 10 years).

Loss, losses
usually refers to the case of a negative return (proceeds being less than book value) obtained from the disposition of assets (or liabilities) not normally disposed of in the daily course of business, such as from selling land, buildings or other noncurrent assets, or from refinancing debt.

Loss on sale
the deficit that occurs when the asset's book value is more than the proceeds received from the sale of the asset.

Lower of cost or market value
a method of valuing items of inventory where inventory is valued at the lower of original cost or market value (that is, net realisable value).

M

Management accounting
accounting information that is designed to aid management in its operation and control of the firm and in its general decision-making. Different from financial accounting, which is aimed primarily at users who are external to the firm.

Manipulation
the accusation that management, in choosing its accounting and disclosure policies, attempts to make the performance and position measures suit its wishes.

Market capitalisation
an estimate of the value of a listed public company which is made by multiplying the current share price by the number of shares issued and outstanding.

Market value
the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's-length transaction.

Marketable securities
investments that have a ready market for resale and are held as a way of earning a return from temporarily unneeded cash. Typically they are debentures, shares, options or bonds that can be easily sold in the short term.

Matching
the concept of recognising expenses in the same accounting period in which the related revenues are recognised. See **Accrual accounting**, **Expense recognition**, **Revenue recognition**.

Materiality, material
the magnitude of an omission or misstatement of accounting information that, in the light of surrounding circumstances, makes it probable that a reasonable person relying on the information would have had their judgement changed or influenced by the omission or misstatement. A decision not to disclose certain information may be made because the amounts involved are too small to make a difference (it is not material).

Measurement, measuring
the attachment of dollar figures to assets, liabilities, revenues and expenses in order to produce the figures (values) on the balance sheet and to enable the computation of profit (revenues minus expenses) and equity (assets minus liabilities). See **Asset valuation**, **Balance sheet valuation**, **Profit**, **Recognition**.

Minority interest
the portion of a subsidiary company that is included in consolidated financial statements and is not owned by the controlling (majority) owners of the parent company. See **Consolidated financial statements**.

Moving average cost
see **Average cost**.

N

Net book value
the cost of an asset minus any accumulated depreciation, amortisation, allowance for doubtful debts and so on.

Net loss
negative net profit.

Net-of-tax analysis
a method of determining the impact of management decisions or accounting changes by which the effects of income tax are included to produce the net after-tax effect of the decision or change.

Net present value
for a project or object, the present value of future cash inflows minus the present value of future cash outflows.

Net profit
the residual after deduction of expenses from revenues.

Net realisable value
the fair market value that an asset will bring if it is sold through the usual product market minus any completion or disposal costs. See **Fair value**, **Lower of cost or market**, **Replacement cost**.

Noncurrent assets
assets expected to bring benefit for more than one fiscal year.

Noncurrent liabilities
liabilities expected to be repaid or otherwise removed more than one year in the future.

Notes payable
accounts payable that are supported by signed contracts or other agreements and usually carry interest. Often employed to describe financing that is obtained from banks, and other financial institutions, and drawn on to provide operating funds (or funds for construction before completion of projects) and obtain more secured financing, such as a mortgage.

Notes receivable
accounts receivable supported by signed contracts or other agreements specifying repayment terms, the interest rate and other conditions.

Notes to the financial statements
notes appended to the statements, providing information about the accounting policies chosen and other supplementary information helpful to interpreting the figures.

O

Objectivity
the notion that the information in financial statements must be as free from bias as possible so that all user groups can have confidence in it. An accountant attempts to record and report data that are based on objective sources to make the data more acceptable to outside parties.

Off balance sheet financing
methods of obtaining financing that avoid having to record the sources as liabilities or equity.

Operating activities
the part of a statement of cash flows that relates to the provision of goods and services.

Ordinary shares
the basic voting ownership interests in a company.

Overdraft
a negative bank account balance (withdrawals exceeding deposits), which banks may allow as a de facto loan as long as it is temporary. See **Line of credit**.

Overhead cost
the costs of manufacturing inventories or constructing other assets that are incurred indirectly, such as heat, power and supervisors' salaries.

Owner's capital
the owner's equity of the proprietor of an unincorporated business. See **Capital**, **Equity**.

P

Parent
an entity that controls another entity, the name of which is usually used in the consolidated financial statements.

PE ratio (P/E ratio)
the price-to-earnings ratio is calculated as the current price of a share in the company divided by its earnings per share.

Percentage of completion
a method of allocating revenue (and associated expenses) over several fiscal periods during which the revenue is earned. Used for long-term construction contracts, franchise revenue and similar multi-period revenues.

Petty cash
a fund set up to make small cash payments.

Posting
the transfer of journal entries to ledger accounts, thereby making them permanent. The only way to fix a mistake is to use an adjusting or correcting entry and post that.

Preference shares
ownership shares that have special rights in addition to (or instead of) those accompanying ordinary shares.

Preparers
managers and accountants who produce financial statements.

Prepayments (prepaid expenses)
expenses that have been paid but not yet incurred; an expenditure recorded as a current asset because the benefit will be obtained in the near future (e.g. insurance coverage good for the next year).

Present value
future cash inflows or outflows reduced to their present amount by removing from them the interest that could have been earned or paid had the money been on hand for investment today.

Present value analysis
analysis of future cash flows by removing the presumed interest components of those flows.

Price-level-adjusted historical cost
a rarely used asset valuation method by which the historical cost of each asset is revalued for inflation.

Price-to-earnings ratio (P/E ratio)
see **PE ratio**.

Principal-agent theory
see **Agency theory**.

Profit
the excess of revenues over expenses. The (net) profit of a business is the residual after deduction of expenses from revenues. Also referred to as income or earnings. See **Cash profit**, **Gross profit**, **Profit before (income) tax**.

Profit before (income) tax
an amount equal to revenue minus all other ordinary expenses except income tax. Some non-taxed or special items, such as extraordinary items, are placed after income tax has been deducted, and are therefore not part of profit before income tax.

Profit margin
the percentage of sales revenue that ends up as profit; hence it is the average profit for each dollar of sales.

Property, plant and equipment
noncurrent assets that are tangible, and are used in the operating activity of an entity.

Prospectus
a formal document, which includes detailed financial information, that is required by law when a company invites the public to subscribe to its securities.

Provision
a liability of uncertain timing or amount.

Provision for employee entitlements
a liability for future economic benefits to be paid to employees that employees accumulate as a result of the rendering of their services to an employer up to the reporting date. They include, but are not limited to, wages and salaries (including fringe benefits and nonmonetary benefits), annual leave, sick leave, long service leave, superannuation and other post-employment benefits.

Purchase order
a document used when a formal request to buy products or services is made.

Q

Quick ratio
cash, temporary investments and accounts receivable divided by current liabilities. Also called the acid test ratio. See **Ratios**.

R

Ratios, ratio analysis
numbers produced by dividing one financial statement figure by another figure; for example, the working capital ratio is the total current assets figure divided by the total current liabilities figure. Standard ratios are used to assess aspects of a firm – particularly profitability, solvency and liquidity.

Realised
used in this book as a synonym for 'received' or 'collected'. Revenue is recognised when it is earned, but that is usually before it is collected, or realised. See **Recognition**, **Revenue recognition**.

Reclassification (entry)
a journal entry or the repositioning of an account that changes the location of the account within the balance sheet or within the income statement but does not affect profit.

Recognition
The process of giving effect, in the accounts, to revenue believed to be earned, or expenses believed to be incurred, before (or after) the cash is collected or paid. See **Expense recognition**, **Revenue recognition**.

Reconcile, reconciliation
the analysis technique of comparing two sets of information that relate to the same account or activity and identifying differences that indicate errors in either or both records. See **Bank reconciliation**.

Record-keeping
the bookkeeping methods and other methods used to create the underlying records on which accounting information is based.

Reducing balance depreciation
an accelerated depreciation method by which the annual depreciation expense is calculated as a fixed percentage of the book value of the asset, which declines over time as depreciation is deducted. See **Accelerated depreciation**, **Depreciation**.

Relevance
the capacity of information to make a difference in a decision by helping users to form predictions about the outcomes of past, present and future events or to confirm or correct prior expectations.

Replacement cost
the price that will have to be paid in order to replace an existing asset with a similar asset. This amount is likely to be different from fair market value or net realisable value. See also **Lower of cost or market method**.

Retail inventory method
the provision of internal control and the deducing of inventory amounts for financial statements by using ratios of cost to selling price; for example, deducing the cost of goods sold from sales revenue minus the mark-up on cost. Ending inventory cost can be determined by measuring inventory at retail prices minus mark-up.

Retained profits (retained earnings)
profits not yet distributed to owners; the sum of net profits earned over the life of a company, less distributions (dividends declared) to owners.

Return on assets (ROA)
net profit, before deducting interest expense and tax, divided by total assets. This measures the operating return before the cost of financing.

Return on equity (ROE)
net profit divided by owners' equity. The most frequently used ratio for measuring the business's return to owners.

Return on investment (ROI)
a general term for measures of return related to the investment needed to earn the return. See **Return on assets**, **Return on equity**.

Revaluation
the act of recognising a reassessment of the values of noncurrent assets, as at a particular date.

Revaluation decrement
the amount by which the revalued carrying amount of noncurrent assets, as at the revaluation date, is less than its previous carrying amount.

Revaluation increment
the amount by which the revalued carrying amount of a noncurrent asset, as at the revaluation date, exceeds its previous carrying amount.

Revenue
a class of income relating, typically, to the ordinary activities of an entity.

Revenue received in advance
a liability account used for customer deposits or other cash receipts before the completion of the sale (e.g. before delivery).

Revenue recognition
the entry into the accounts of the amount of revenue determined, according to the firm's accounting policies, to be attributable to the current period. See **Accounts receivable**, **Accrual accounting**, **Revenue**.

Risk
the probable variability in possible future outcomes above and below the expected level of outcomes (e.g. returns), but especially below. Risk and return go hand in hand, because a high risk should mean a higher potential return, and vice versa.

S

Sales invoice
a document containing the details of a sale.

Sales journal
a record of sales made, used to produce the revenue data in the accounts. See **Books of original entry**.

Scope 1 emissions
all direct emissions; that is, all emissions over which a company has direct control.

Scope 2 emissions
a particular type of indirect emission; that is, emissions over which a company has only indirect control arising from the generation of purchased electricity, heat or steam.

Scope 3 emissions
all other indirect emissions; that is, all emissions over which a company has only indirect control arising from any emissions source other than electricity, heat or steam purchased by that company.

Securities
shares, bonds and other financial instruments issued by companies and governments, and usually traded on capital markets.

Segregation of duties
an internal control technique whereby tasks that involve sensitive assets, such as cash, accounts receivable or inventories, are divided up so one person does not both handle the asset and keep the records of the asset.

Share buyback
a process by which a company buys its own shares at market value on the stock exchange, then cancels them to reduce the total number of shares on issue. Allowed under certain conditions as specified in the Corporations Law.

Share capital
the portion of a company's equity obtained by issuing shares in return for cash or other considerations.

Share dividend
a dividend that is paid by issuing more shares to present shareholders rather than paying them cash.

Share split
the reissue of shares in which the number of new shares is some multiple of the previous number. For example, a two-for-one split results in a shareholder owning twice as many shares as before. Because there has only been a change in the number of shares, not in the underlying value of the company, the share price should fall in accordance with the split (therefore, the new shares should have a share price that is about half the previous price).

Share (stock) market
a capital market in which equity shares are traded. Often used as a generic term for capital markets.

Shareholders
the holders of a company's share capital; therefore, the owners of the company.

Shareholders' equity
the sum of shareholders' direct investment (share capital) and indirect investment (retained profits and reserves).

Shares (stock)
units of share capital, evidenced by certificates and, for public companies, traded on capital markets with other securities.

Significant influence
a company, which is not a subsidiary of an investor company, over which the investor has significant influence (generally 20–50 per cent ownership) but not control. See **Equity method**.

Stakeholder engagement
the identification of an organisation's stakeholders and the prioritising of this list of stakeholders.

Statement of cash flows (cash flow statement)
a statement that explains the changes in cash equivalent balances during a fiscal period.

Statement of financial position
see **Balance sheet**. From 2001 to 2004 this was called a statement of financial position in published Australian financial statements.

Statement of retained profits
a financial statement or note that summarises the changes in retained profits for the year.

Stewardship
the concept that some persons (such as management) are responsible for looking after the assets and interests of other persons (such as shareholders), and that reports should be prepared that will be suitable to allow the stewards to be held accountable for the actions taken on behalf of the principals. See **Agency theory**.

Stock exchange
a place where shares and other securities are traded.

Stockholder
an alternative term for shareholder; used particularly in the United States.

Straight-line depreciation (amortisation)
a method of computing depreciation (amortisation) simply by dividing the difference between the asset's cost and its expected salvage value by the number of years the asset is expected to be used. The depreciation expense is distributed evenly over the periods that comprise the expected useful life of the asset. The most common depreciation method used in Australia.

Subsidiary ledger
a set of ledger accounts that collectively provide a detailed analysis of one control account in the general ledger.

Sustainability management
concerned with the maintenance and long-term enhancement of different types of capital (including human and social capital) that reflect an organisation's overall impact and wealth.

Sustainability reporting
a broad term to describe an organisation's reporting on its environmental, social and economic performance.

T

Time value of money
money can earn interest, so money received in the future is worth less in present value terms because the lower amount can be invested to grow to the future amount. Money has a time value because interest accrues over time. See **Present value analysis**.

Timeliness
timely information is usable because it relates to current decision needs. Information that is received too late may not be usable because the time for making the decision has already passed by. See **Relevance**, **Reliability**, **Materiality**, **Objectivity**.

Trade discount
a reduction in the selling prices granted to customers.

Trade receivables
Accounts receivable that arise in the normal course of business with customers.

Trial balance
a list of all the general ledger accounts and their balances. The sum of the accounts with debit balances should equal the sum of those with credit balances.

Triple bottom line reporting
the reporting of an organisation's different types of capital related to environmental, social and economic performance. More commonly referred to now as sustainability reporting.

U

Understandability
one of the concepts underlying the preparation of financial statements is that they should be able to be understood by users who are willing to exercise diligence in examining the reports and who possess the skills and ability to comprehend accounting practices.

Unearned revenue
a liability account used for deposits or other cash receipts before the completion of the sale (e.g. before delivery). Also called deferred revenue and revenue received in advance.

Units-of-production depreciation
a depreciation method where the annual depreciation expense varies directly with the year's production volume.

Useful life
the period over which an asset is expected to be available for use by an entity, or the number of production units, or similar units, expected to be obtained from the asset by an entity.

Users
people who use financial statements to help them decide whether to invest in an enterprise, lend it money or take other action involving financial information.

V

Valuation
the determination of the amounts at which assets, liabilities and equity should be shown in the balance sheet.

Value in use
the present value of future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life.

W

Wages payable
amounts owing to employees in the form of wages at the end of the pay period.

'What if' (effects) analysis
analysis of the effects on financial statements of economic or accounting policy changes.

Working capital
the difference between current assets and current liabilities.

Working capital ratio
current assets divided by current liabilities.

Write-off
refers to the elimination of an asset from the balance sheet. If there is a contra account against the asset already, the write-off is made against the contra, so expense and profit are not affected. If there is no contra account, the write-off (a direct write-off) is made to an expense or loss account, and profit is reduced.

Y

Yield
the effective interest rate earned by a financial instrument such as a bond, given the amount of money received when it was issued. See **Present value**.

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